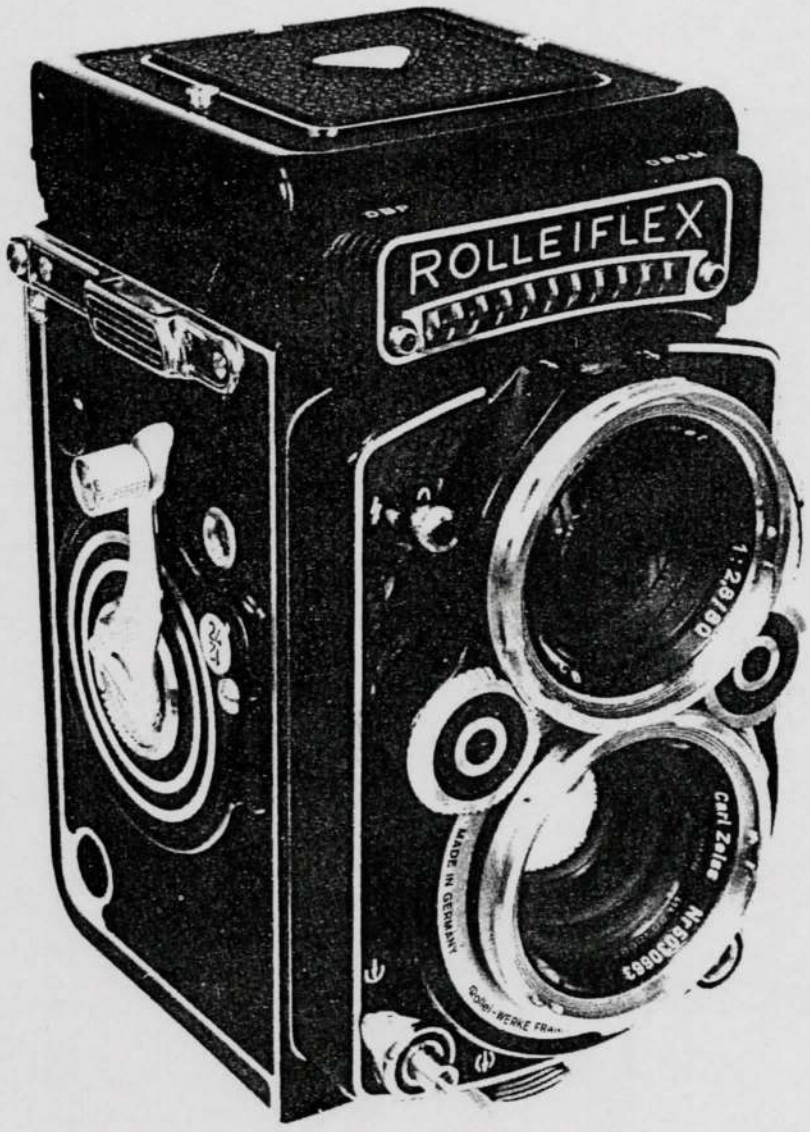
Rolleiflex 2.8F



NATIONAL CAMERA
TECHNICAL TRAINING DIVISION
2000 W. Union Avenue • Englewood, Colorado 80110

National Camera

Technical Training Division
Englewood, Colo., U.S.A. 80110
Phone (303)789-1893

ROLLEIFLEX 2.8F

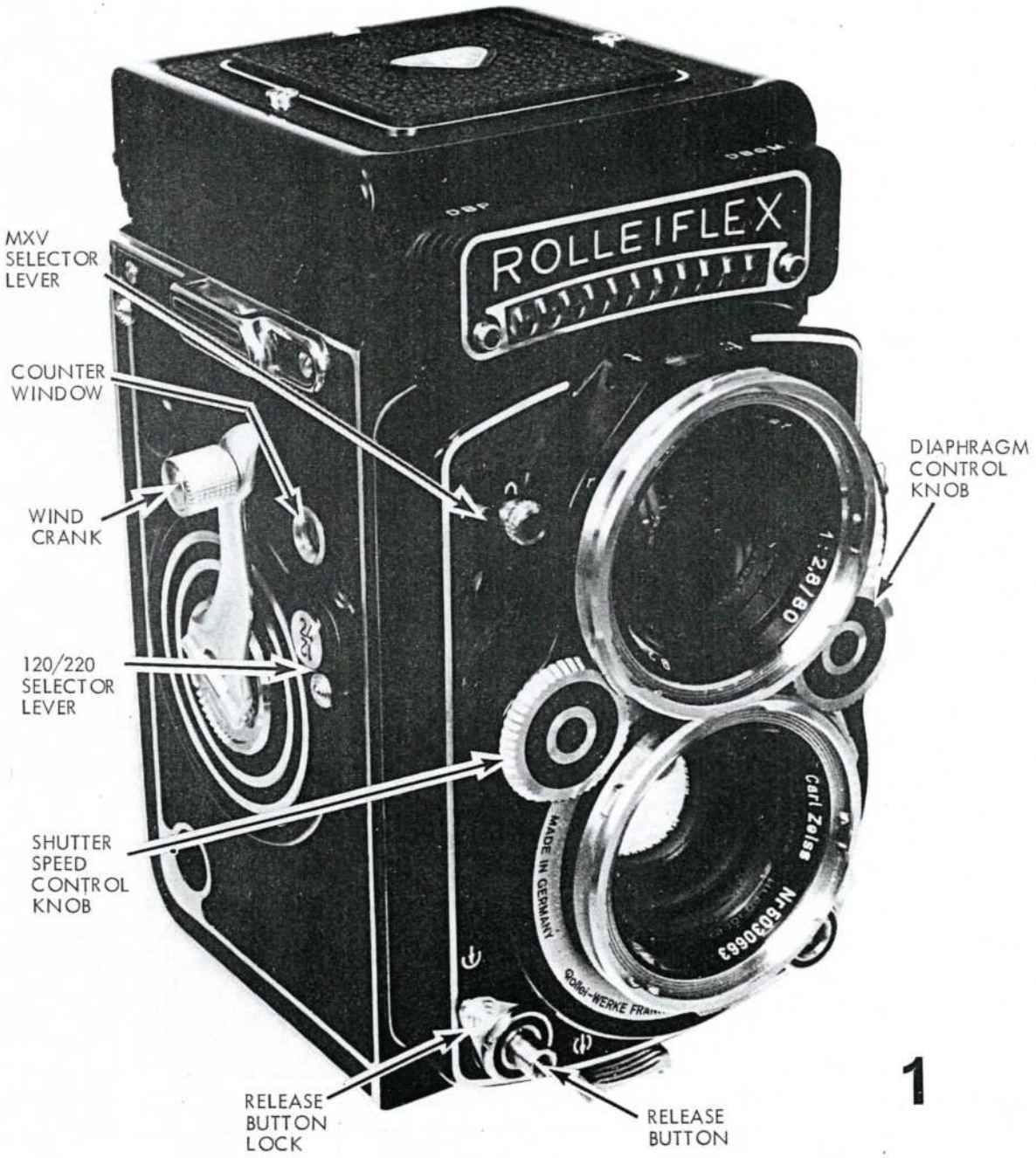
(Model with differential gear coupling between depth of field scale, exposure meter pointer and diaphragm and shutter speed control)

REASSEMBLY OF FRONT COVER PLATE ASSEMBLY

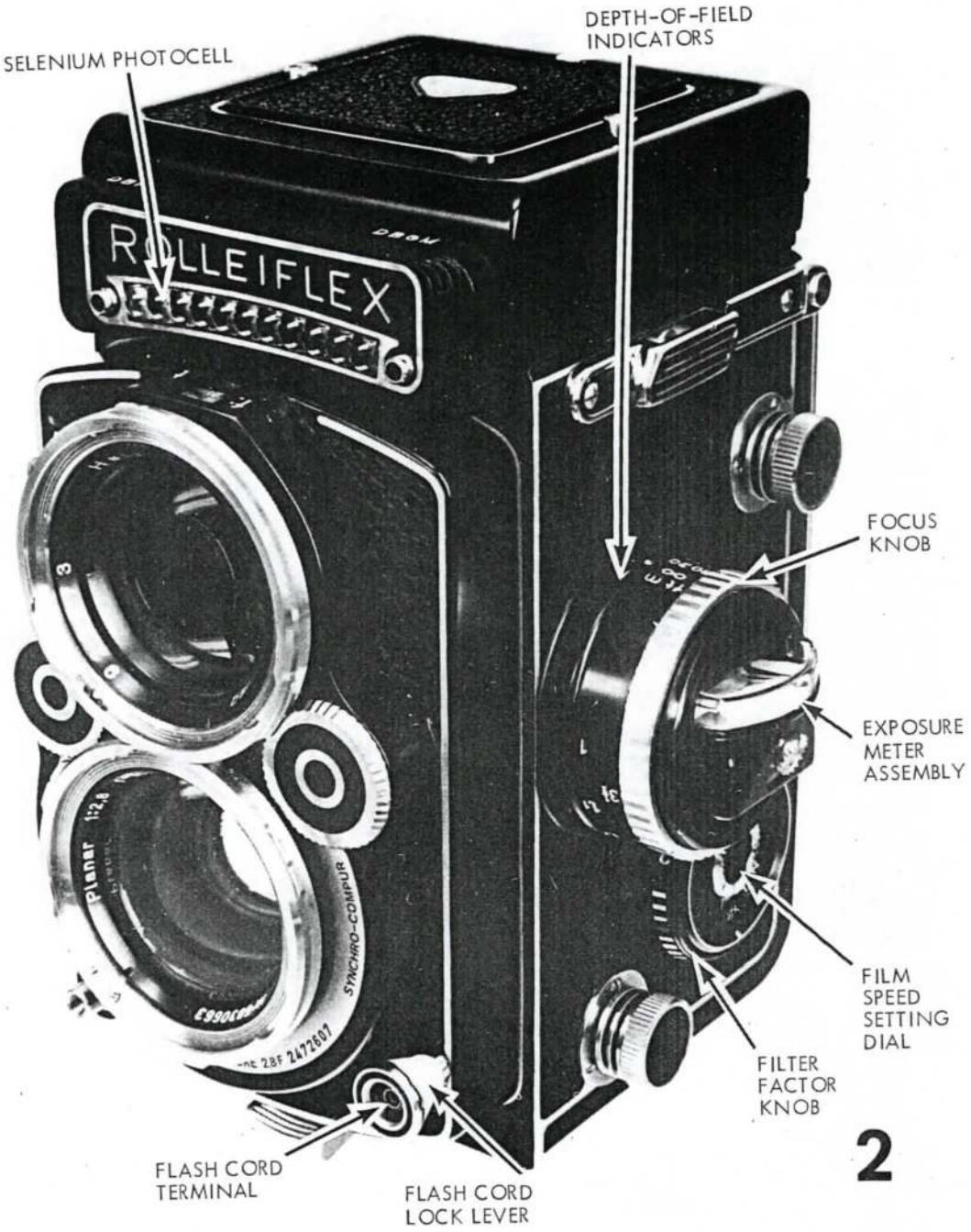
Set external shutter speed and diaphragm controls to 1/500 sec. at f22 on front cover plate assembly. Set internal diaphragm control ring to f22 and speed cam to 1/5000 sec. Make sure both the depth of field scale and exposure meter pointer control racks at the side of the front standard are in their down position. Turn over the front cover plate assembly and observe the position of the slots in the control gears that mesh with the differential gear. Set the lugs on the differential gear to correspond with the slot position of the front cover plate assembly control gears and then place the differential gear into its bearing on the front standard. If the lugs on the differential gear are no longer in the proper position after meshing with the depth of field and exposure meter pointer control racks, tilt the differential gear slightly until it disengages from the racks. Then reposition the lugs so they will correspond with the slots in the front cover plate assembly control gears. The differential gear can then be tilted back into engagement with the depth of field scale and exposure meter pointer racks. Be sure that the racks remain in the down position when engagement is made.

Before attempting to replace the front cover plate assembly, be certain the stud on the MXV setting lever is aligned properly with the shutter setting link at the lower left corner of the viewing lens on the front standard. The front cover plate assembly can now be lowered gently into place. If all of the previously mentioned parts are positioned correctly, the controls will be aligned properly and the front cover plate will seat positively with a minimum amount of "jockeying" necessary. Once the front cover plate is seated, replace the cover plate screws and test all controls for proper operation. If any of the controls fail to function properly, or if the front cover plate does not seat positively, one or more of the controls are not aligned correctly and the front cover plate must be removed and all parts rechecked for positioning and alignment.

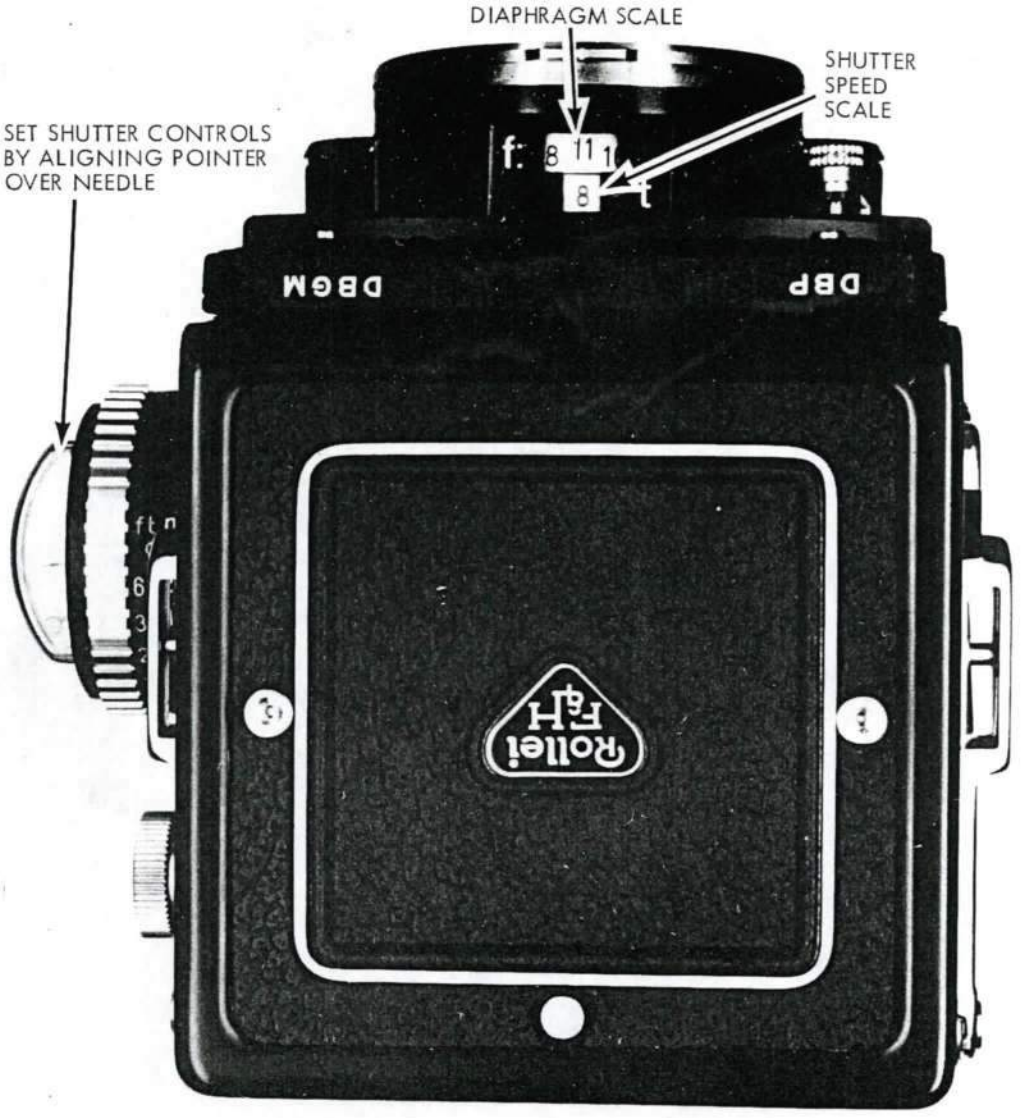
After the front cover plate has been replaced and all controls checked okay, the exposure meter pointer control can be checked for proper calibration. Set the ASA index at 25 and the filter factor dial to "0", shutter speed at 1/2 second and diaphragm at f8. The exposure meter pointer should now be over the red dot to the left of center on the exposure meter dial. If the pointer does not line up with the red dot but is within approximately 1/16", the pointer control can be adjusted as follows (when the pointer is too far from the dot, one or both of the racks was not in its down position when the front cover plate was assembled): Remove the leather from the center of the ASA dial. Loosen (do not remove) the two screws under the leather. Loosening the screws will separate the knurled ASA setting knob from the ASA dial. Rotate the knurled ASA setting knob (make sure the ASA dial does not turn with the knob - if so, the screws are not loosened sufficiently) until the pointer lines up with the red dot. Tighten the screws and replace the leather.


MXV SELECTOR LEVER
COUNTER WINDOW
WIND CRANK
120/220 SELECTOR LEVER
SHUTTER SPEED CONTROL KNOB
RELEASE BUTTON LOCK
RELEASE BUTTON
DIAPHRAGM CONTROL KNOB
ROLLEIFLEX
1:2.8/80
Carl Zeiss
MADE IN GERMANY

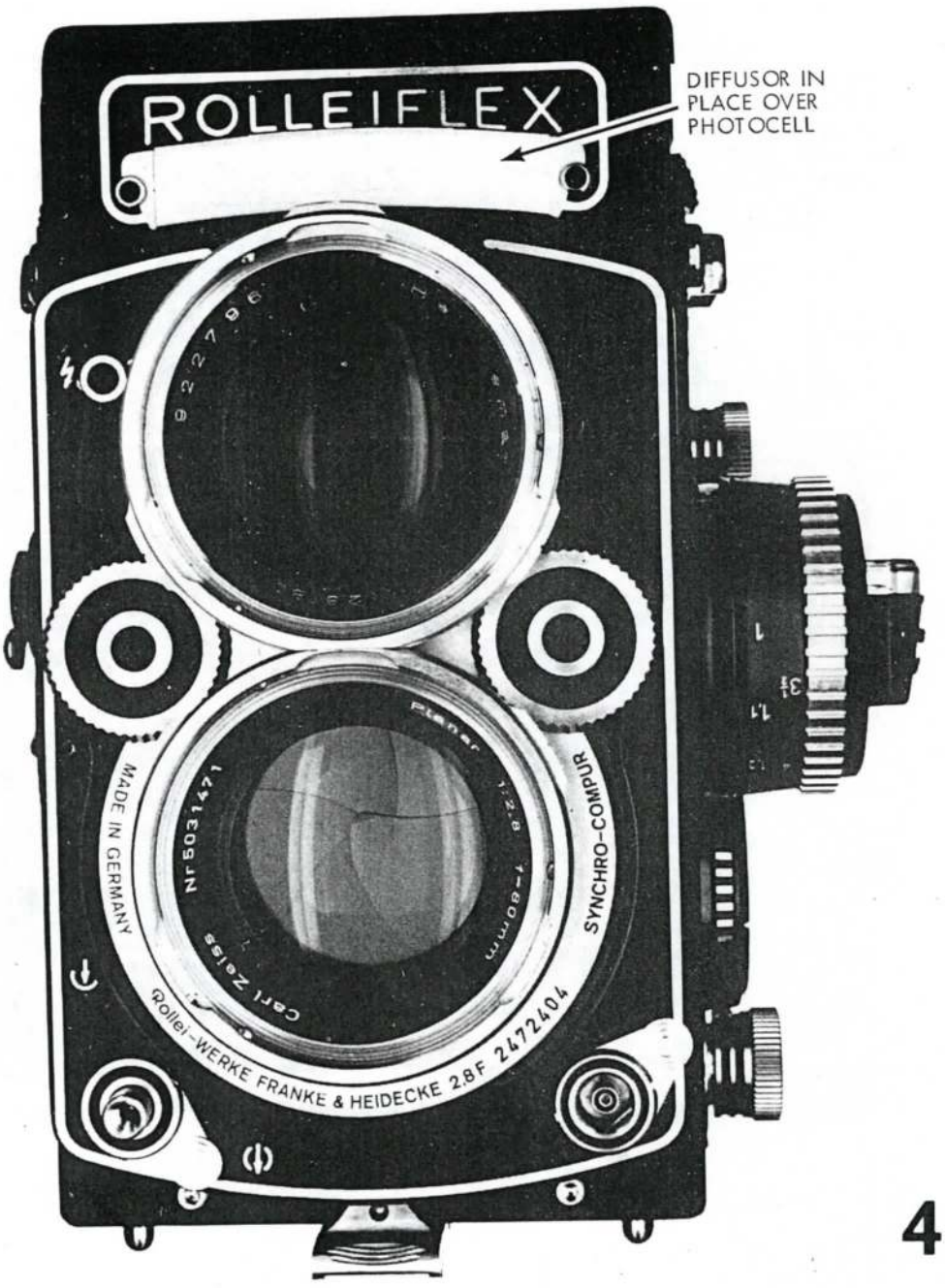
1


SELENIUM PHOTOCELL
DEPTH-OF-FIELD INDICATORS
FOCUS KNOB
EXPOSURE METER ASSEMBLY
FILM SPEED SETTING DIAL
FILTER FACTOR KNOB
FLASH CORD TERMINAL
FLASH CORD LOCK LEVER
ROLLEIFLEX
Planar 1:2.8
SYNCHRO-COMPUR

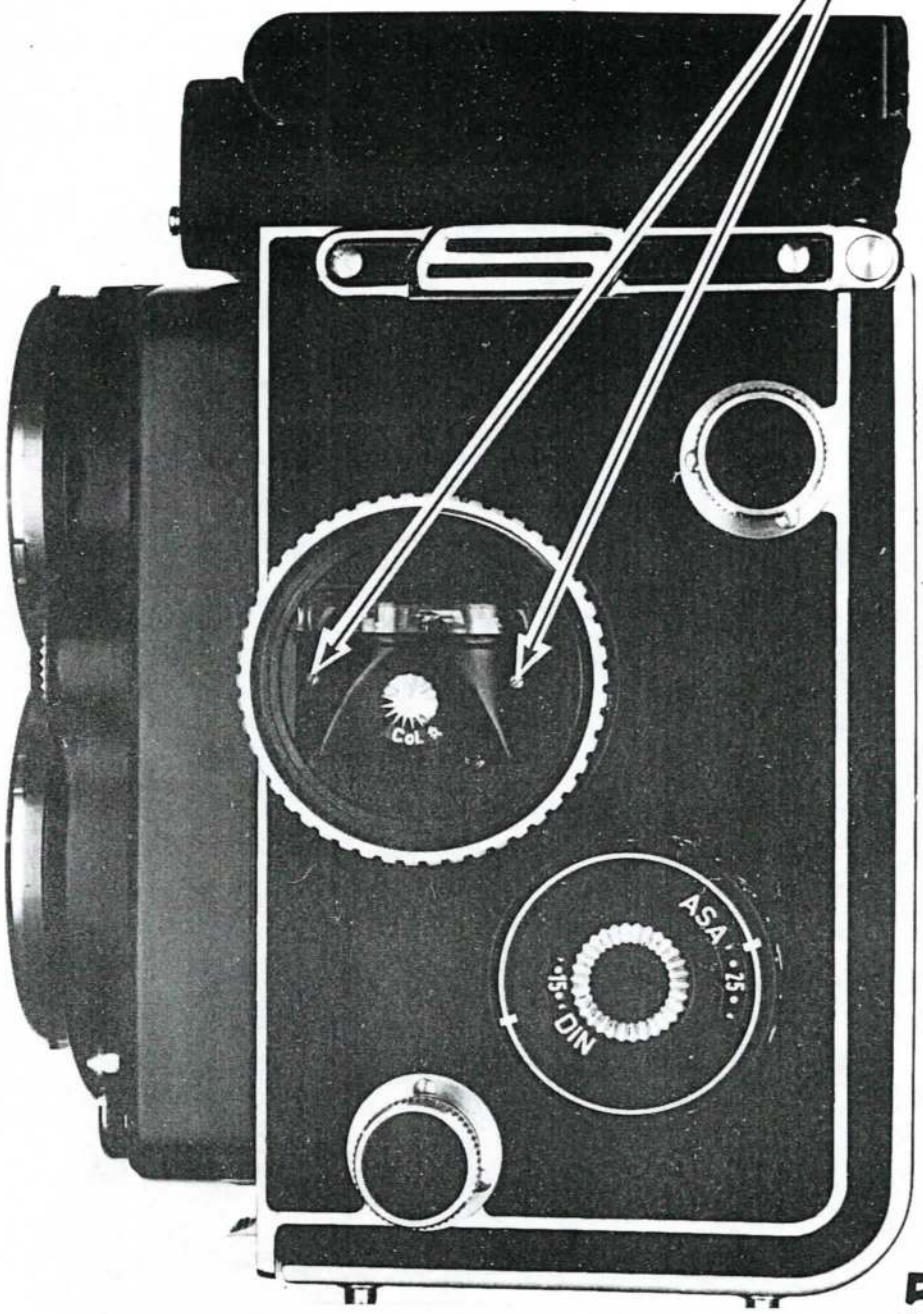
2



CHECK GAP BETWEEN TWO DEPTH-OF-FIELD INDICATORS AT f/3.5 - GAP SHOULD BE 4.6mm

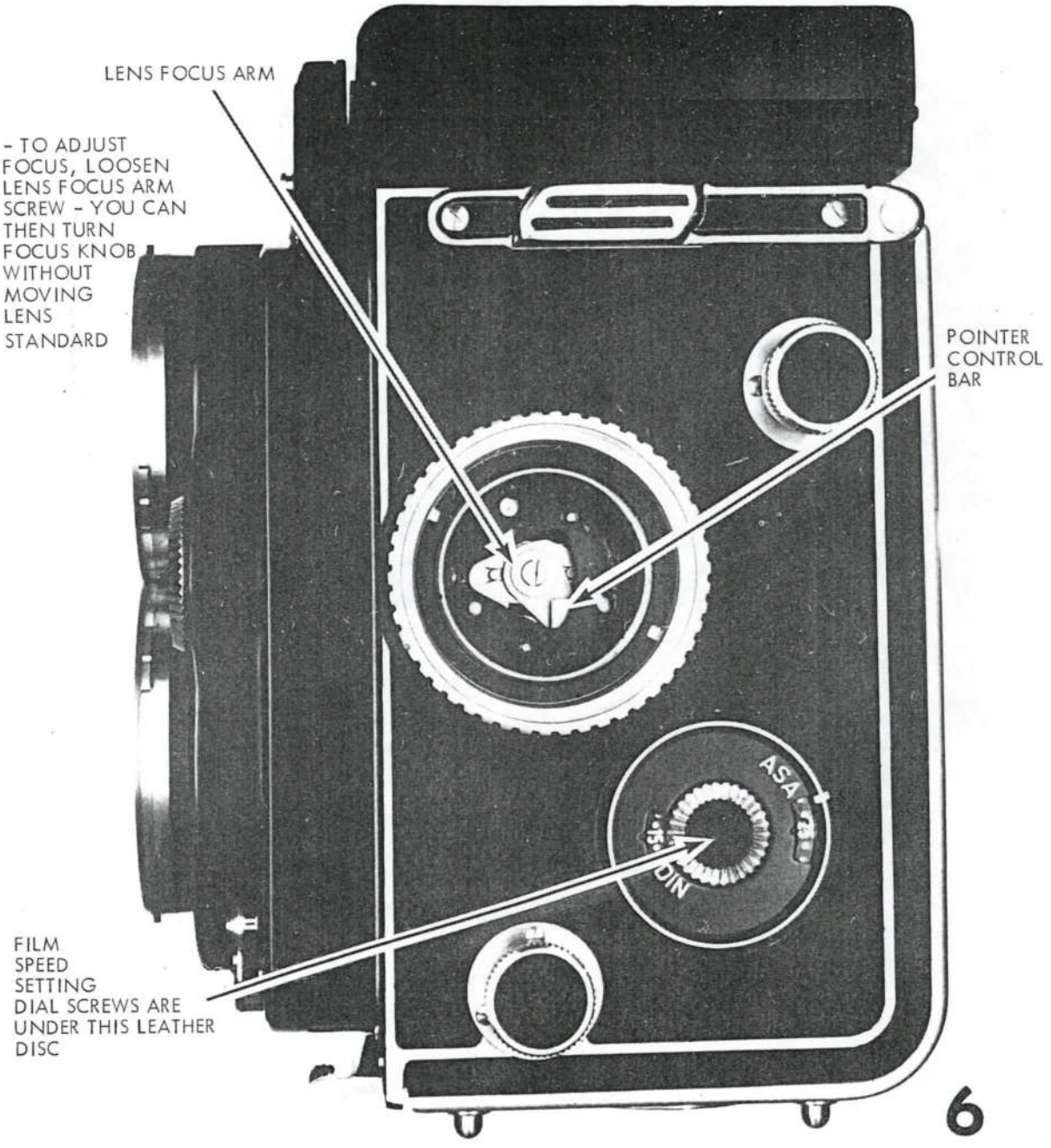

ROLLEIFLEX
DIFFUSOR IN PLACE OVER PHOTOCELL
MADE IN GERMANY
Nr 5031471
Carl Zeiss
Planar 1:2.8 f=80mm
SYNCHRO-COMPUR
Rollei-WERKE FRANKE & HEIDECKE 2.8F 2472404

TO REMOVE EXPOSURE METER, UNSCREW THESE TWO SCREWS AND LIFT OUT METER
(SCREWS REMAIN WITH METER)



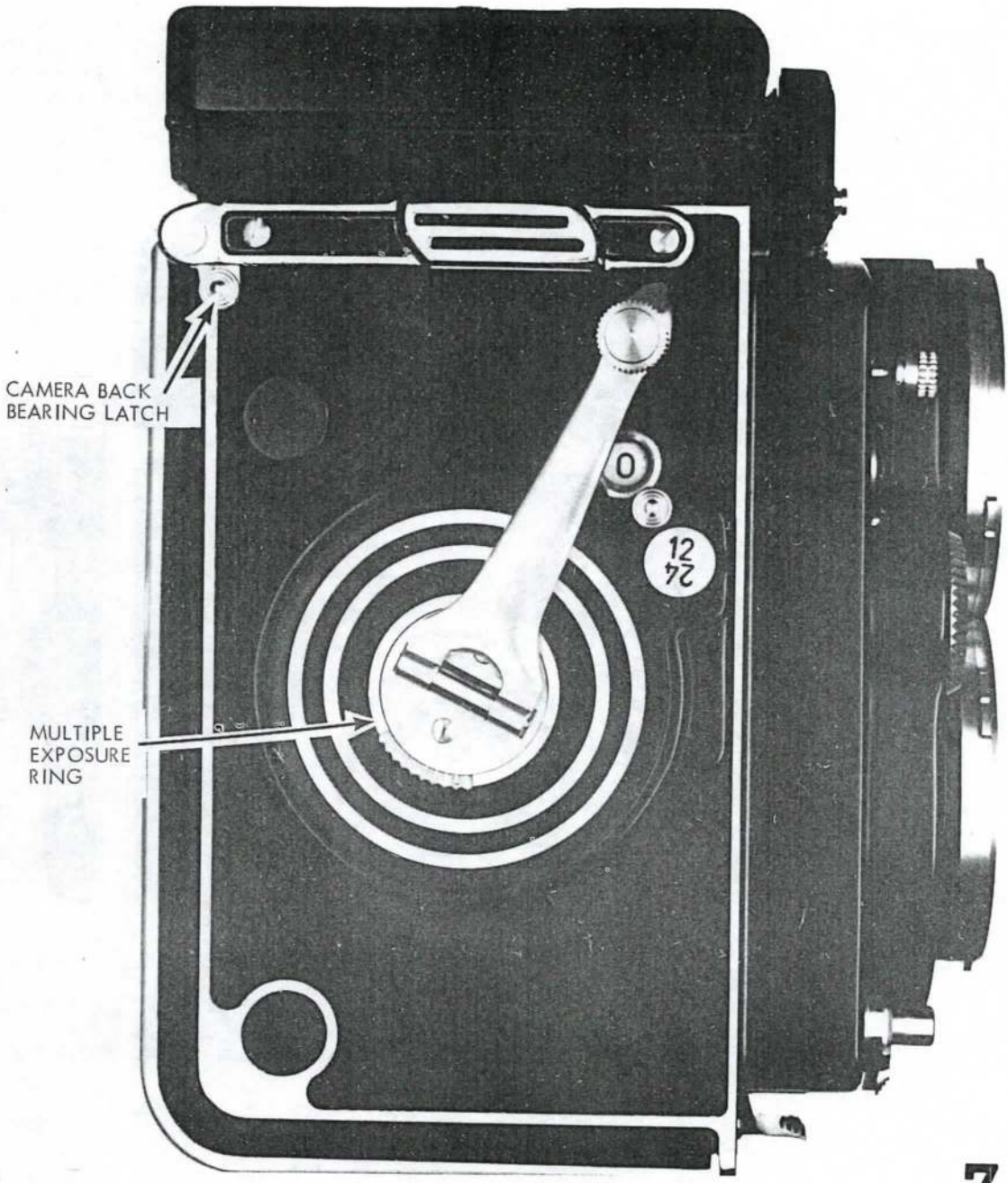
TO REPLACE METER, SET SHUTTER CONTROLS TO 1/500 SECOND AND f/22

The "zero" adjustment for the exposure meter is on the back of the meter assembly -- the screwdriver-slotted adjustment held by an E-ring. With the exposure meter removed from the camera, the needle should align with the heavy red calibration on the scale. The pointer control adjustment is described in the "Rolleiflex 2.8F - 3.5F" supplement sheet.


LENS FOCUS ARM
- TO ADJUST FOCUS, LOOSEN LENS FOCUS ARM SCREW - YOU CAN THEN TURN FOCUS KNOB WITHOUT MOVING LENS STANDARD
POINTER CONTROL BAR
FILM SPEED SETTING DIAL SCREWS ARE UNDER THIS LEATHER DISC
ASA
DIN

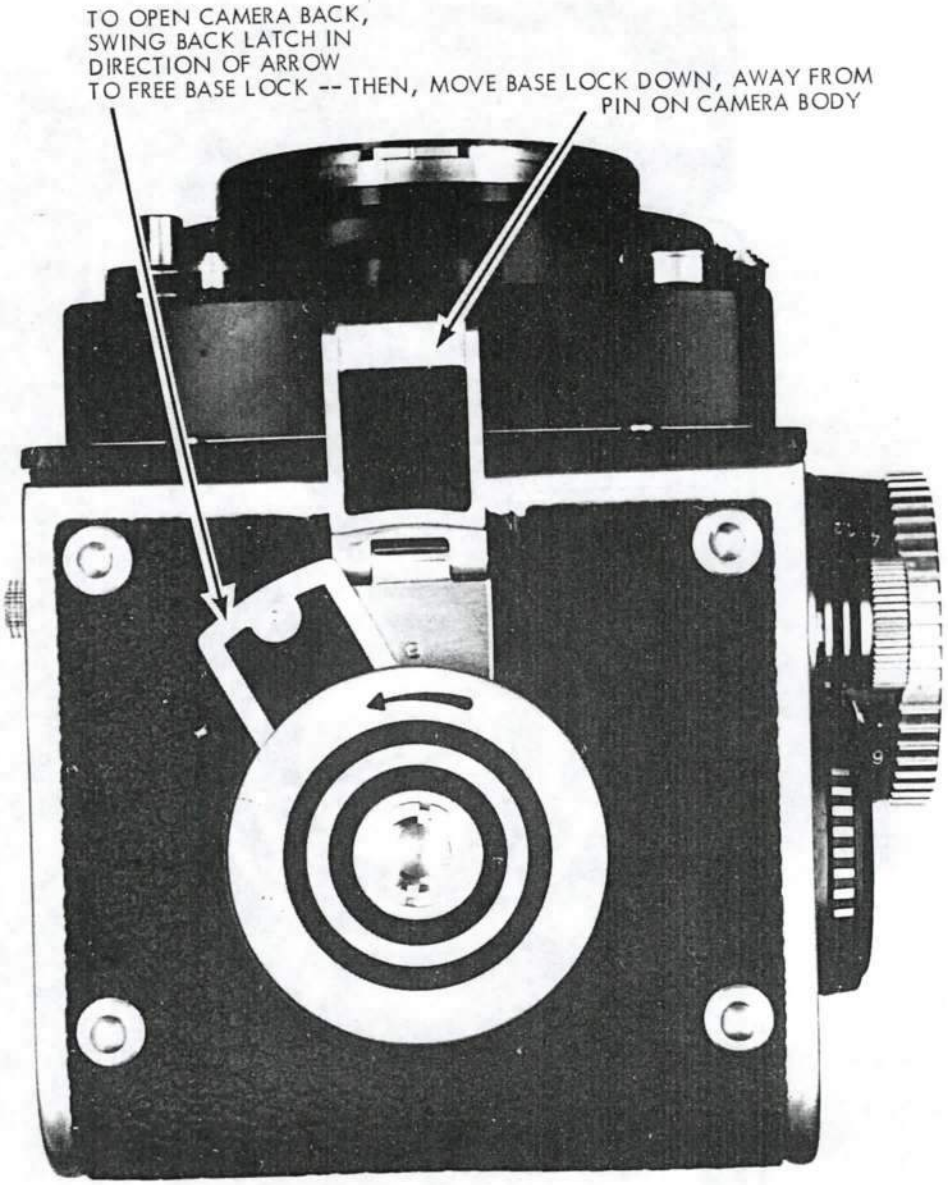
6

NOTE: THE SELENIUM PHOTOCELL AND THE EXPOSURE METER ASSEMBLY ARE MATCHED AT THE FACTORY. IF EITHER IS DEFECTIVE, BOTH SHOULD BE REPLACED.

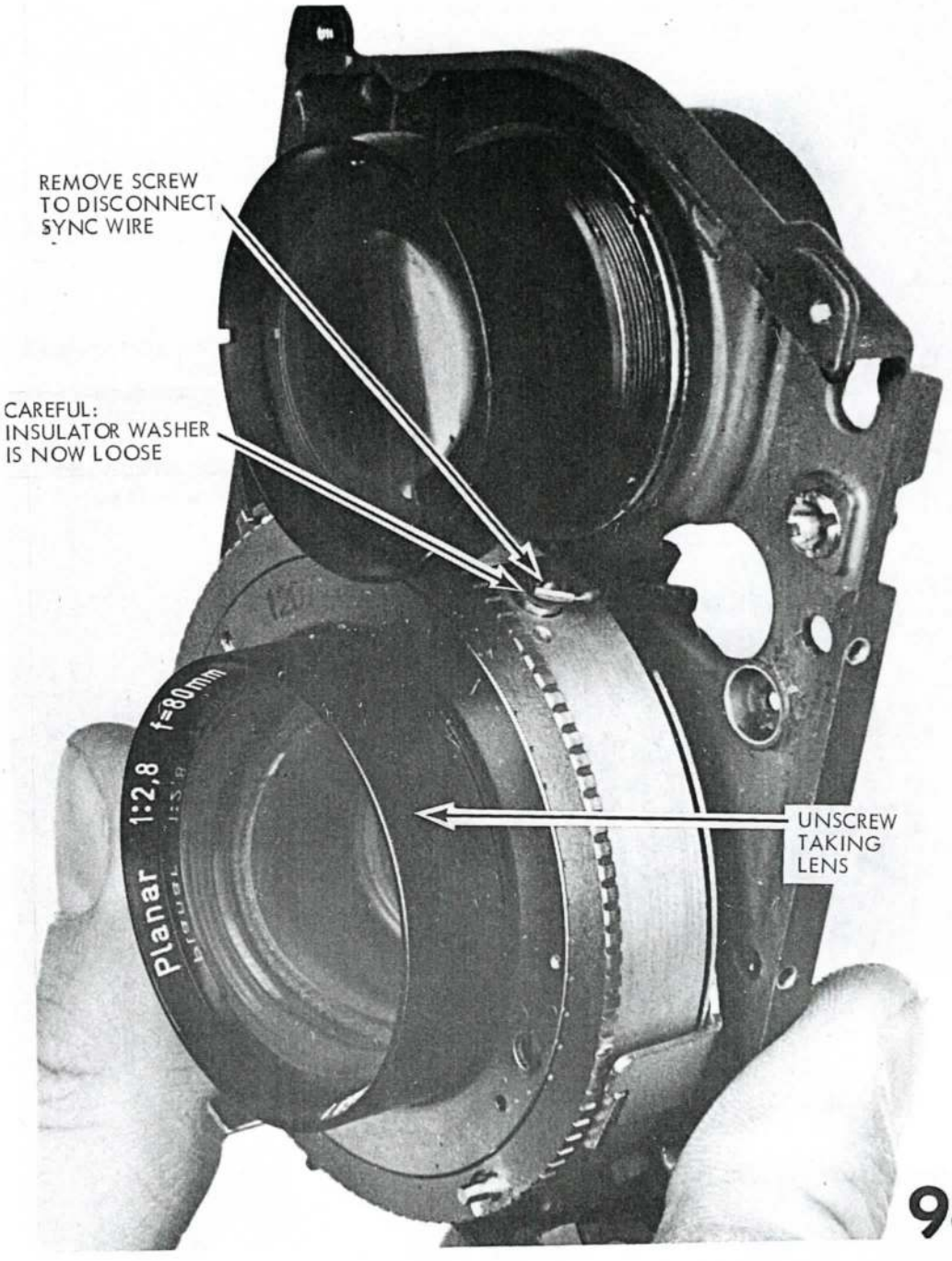


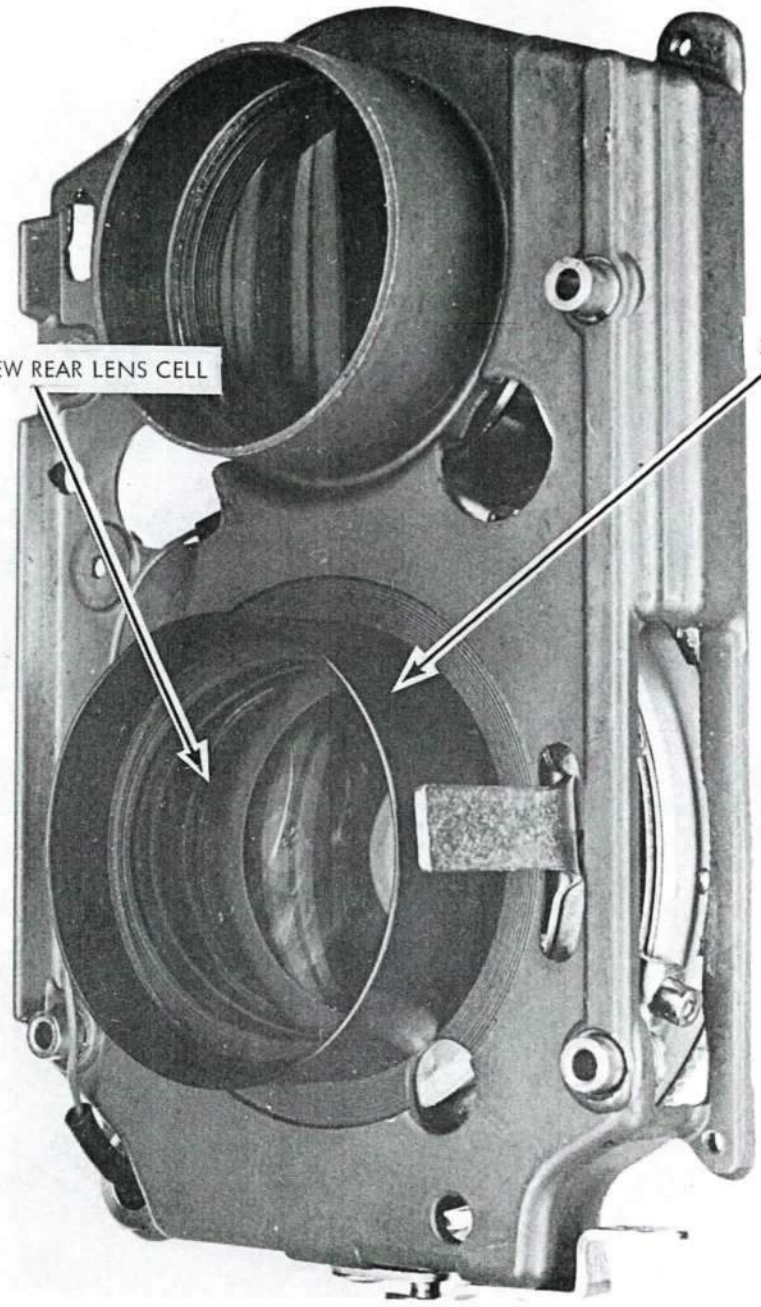
7

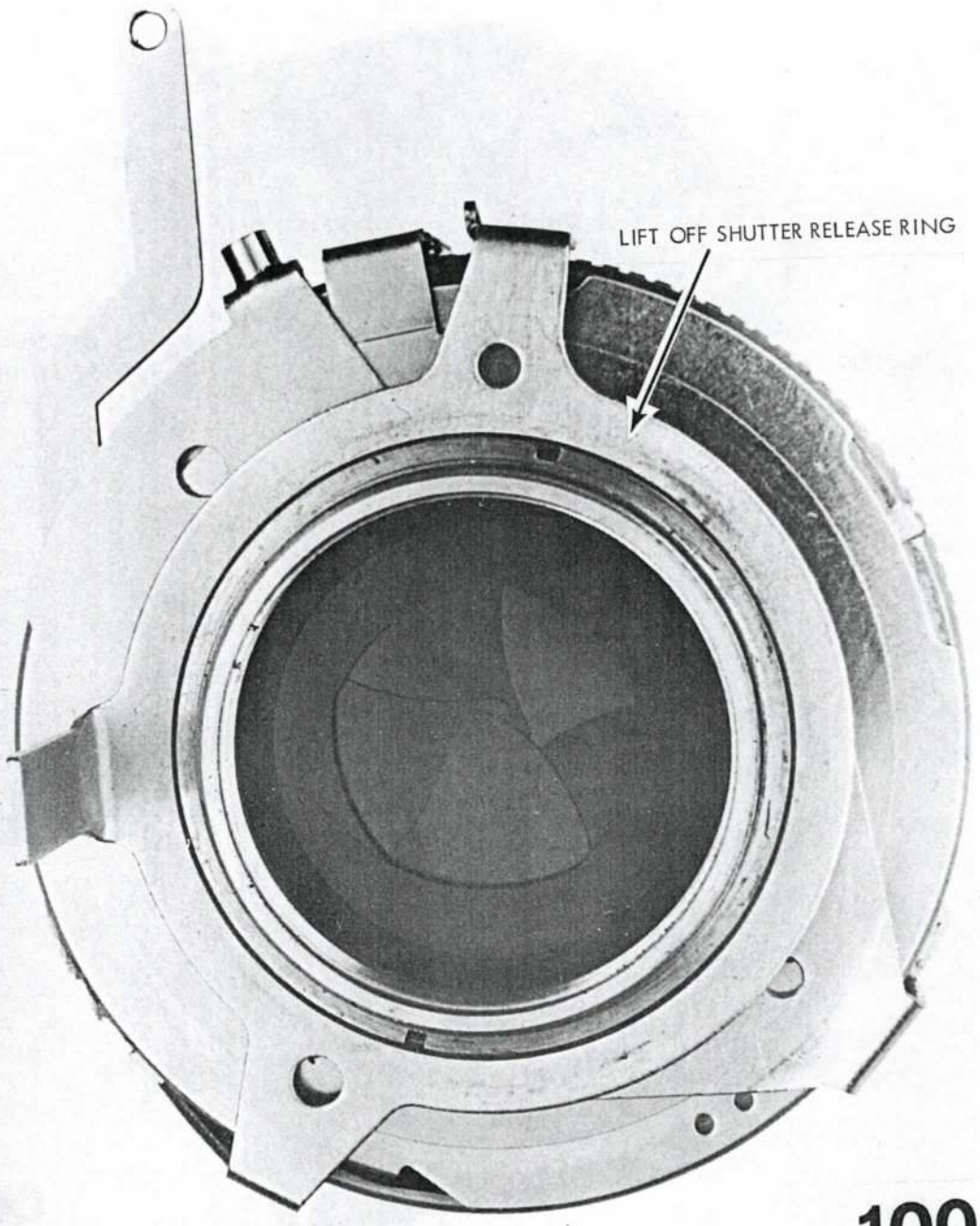
To make an intentional double exposure, first cock and release the shutter in the normal manner. Then, hold the multiple exposure ring in the direction of the engraved arrow. Rotate the wind crank counterclockwise, back to its "ready" position -- the counterclockwise rotation of the wind crank cocks the shutter without advancing the film.


TO OPEN CAMERA BACK,
SWING BACK LATCH IN
DIRECTION OF ARROW
TO FREE BASE LOCK -- THEN, MOVE BASE LOCK DOWN, AWAY FROM
PIN ON CAMERA BODY

TO REMOVE CAMERA BACK, SWING BEARING LATCH (FIGURE 7)
TOWARD REAR OF CAMERA


REMOVE SCREW
TO DISCONNECT
SYNC WIRE
CAREFUL:
INSULATOR WASHER
IS NOW LOOSE
UNSCREW
TAKING
LENS
Planar 1:2,8 f=80mm

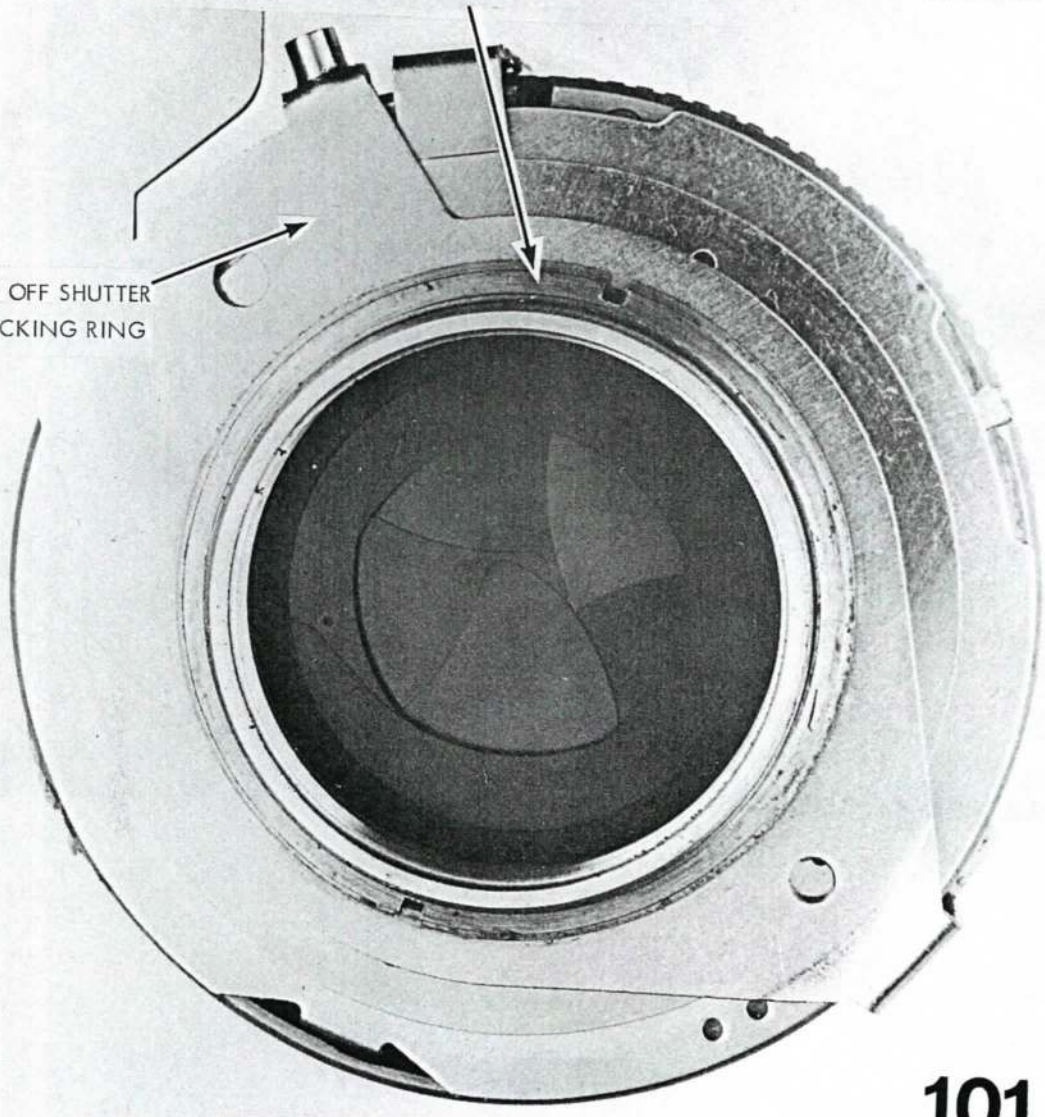

1. UNSCREW REAR LENS CELL
2. UNSCREW SHUTTER RETAINING RING
3. SEPARATE SHUTTER FROM LENS STANDARD

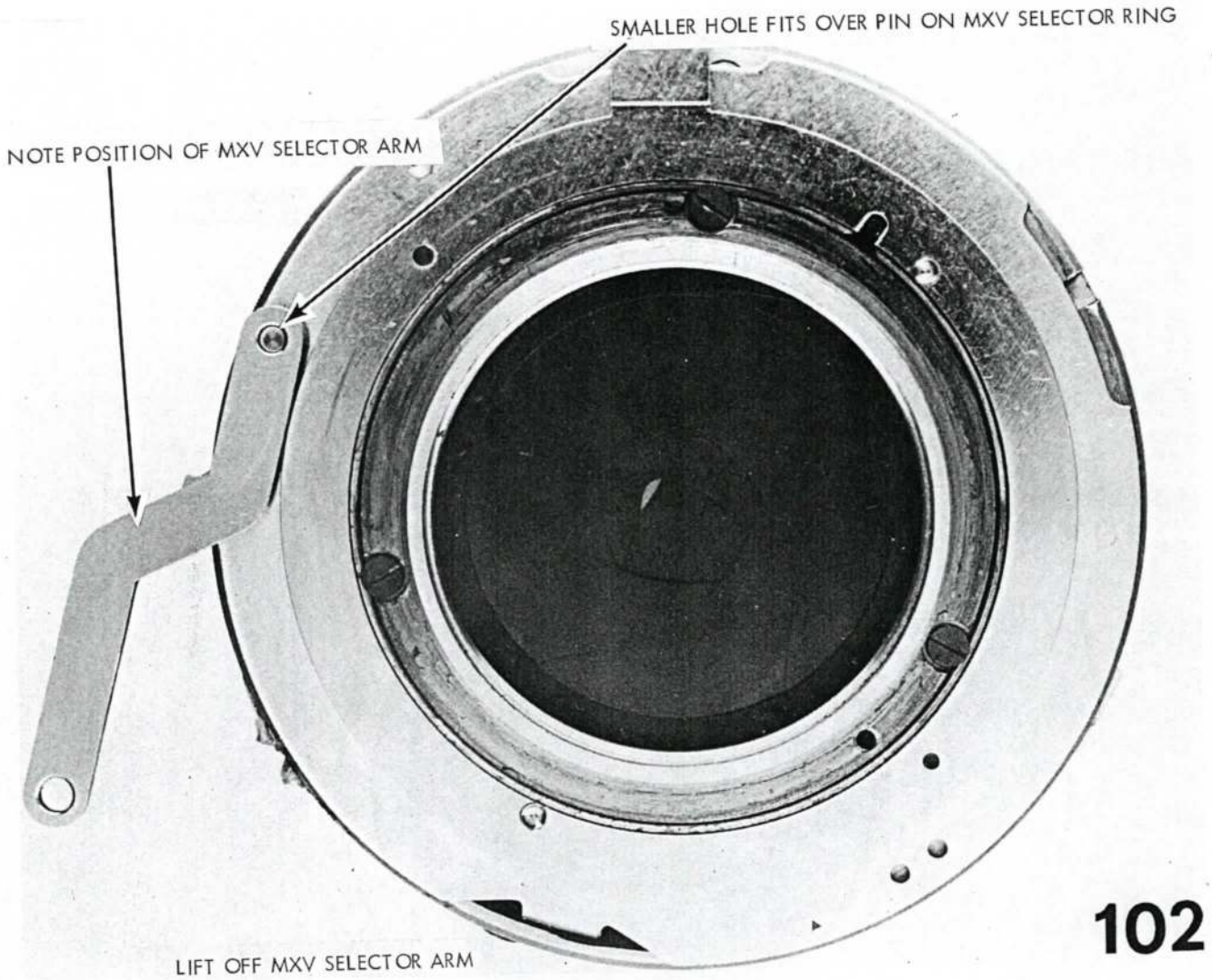


100

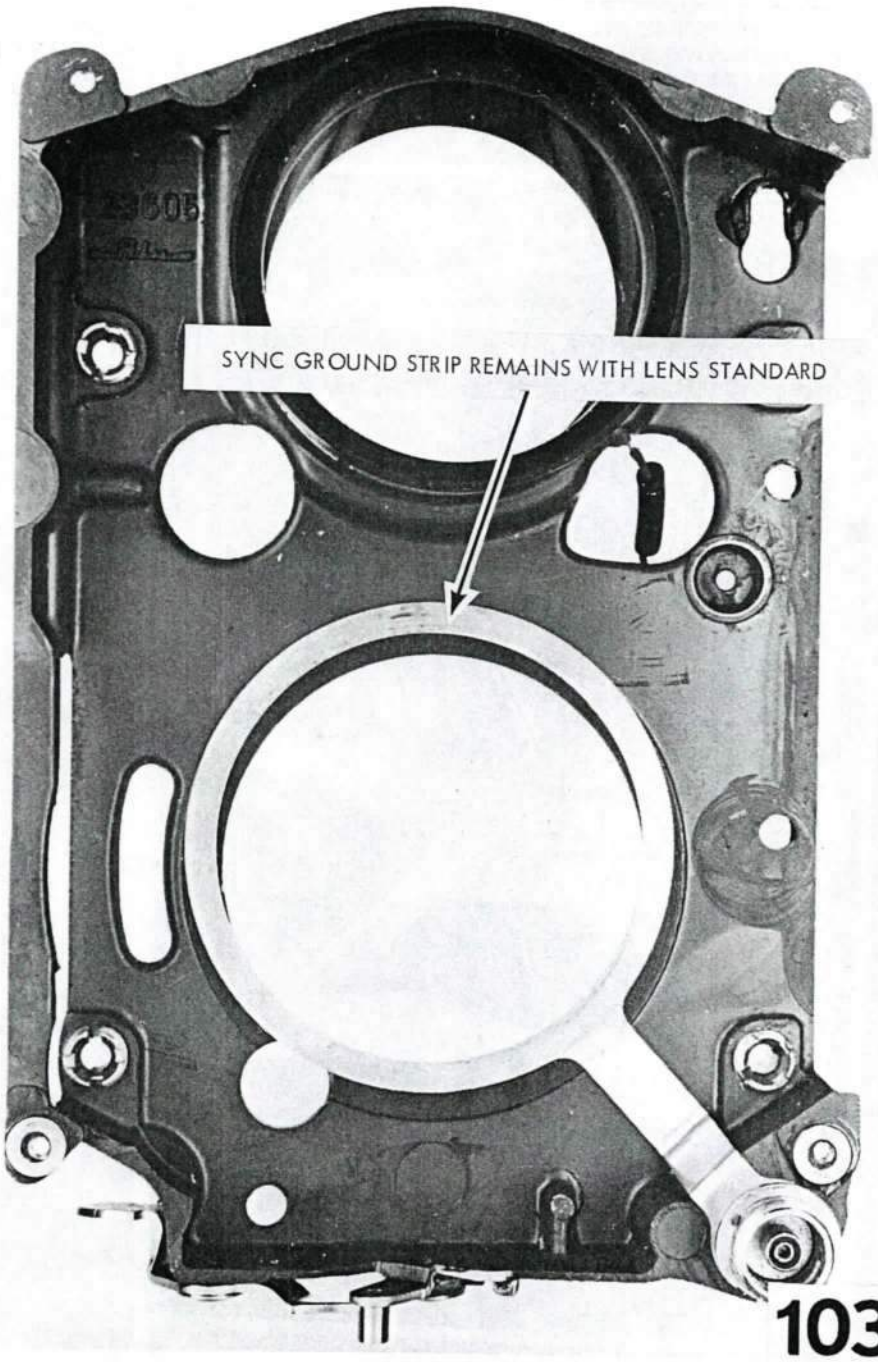
1. UNSCREW SHOULDER RETAINING RING (NOTE THAT THE SIDE WITH TWO SHOULDERS -- ONE FOR THE SHUTTER RELEASE RING AND ONE THAT FITS INTO THE LENS STANDARD GOES UP)

2. LIFT OFF SHUTTER COCKING RING

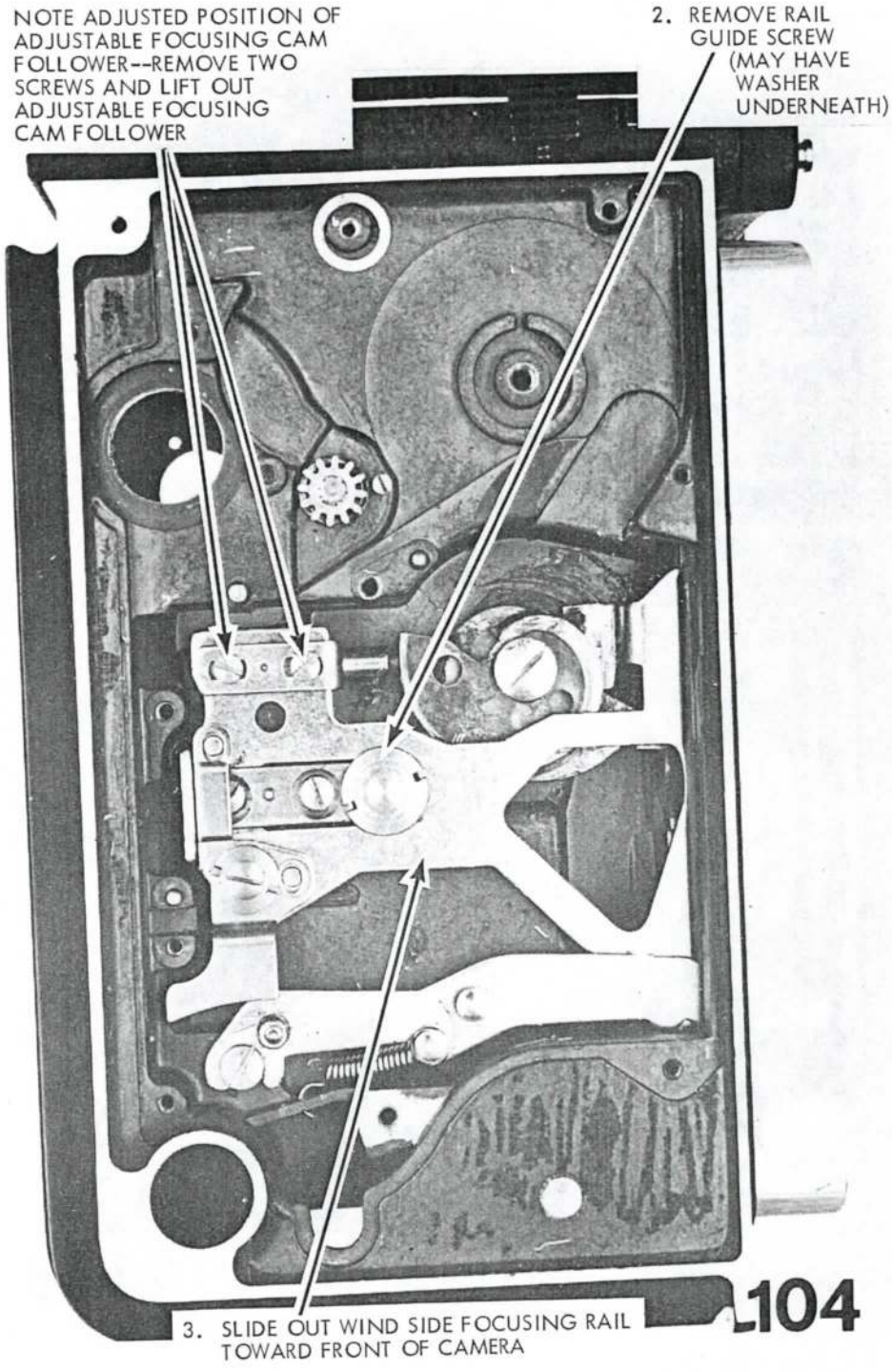


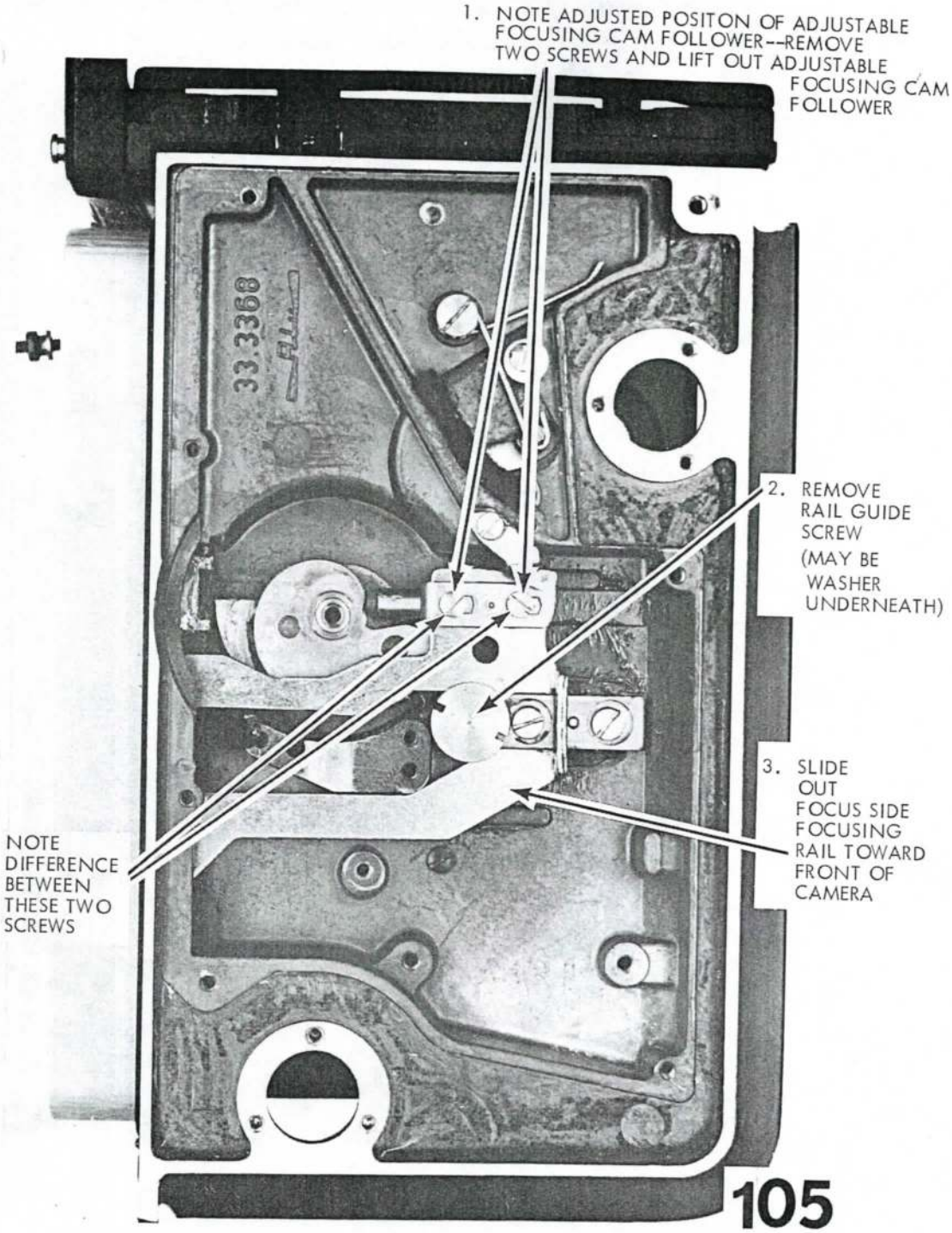

SMALLER HOLE FITS OVER PIN ON MXV SELECTOR RING
NOTE POSITION OF MXV SELECTOR ARM
LIFT OFF MXV SELECTOR ARM

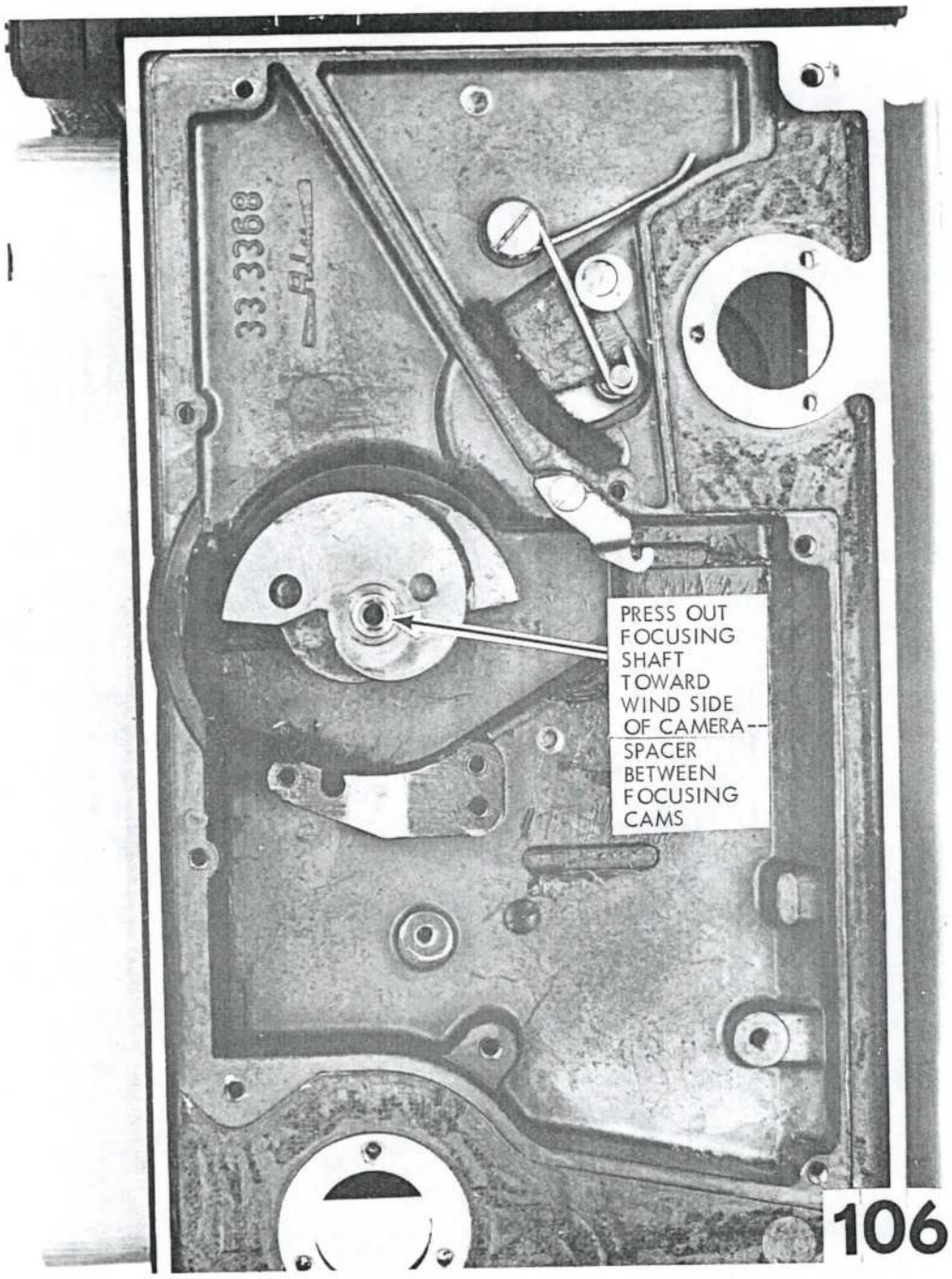
102



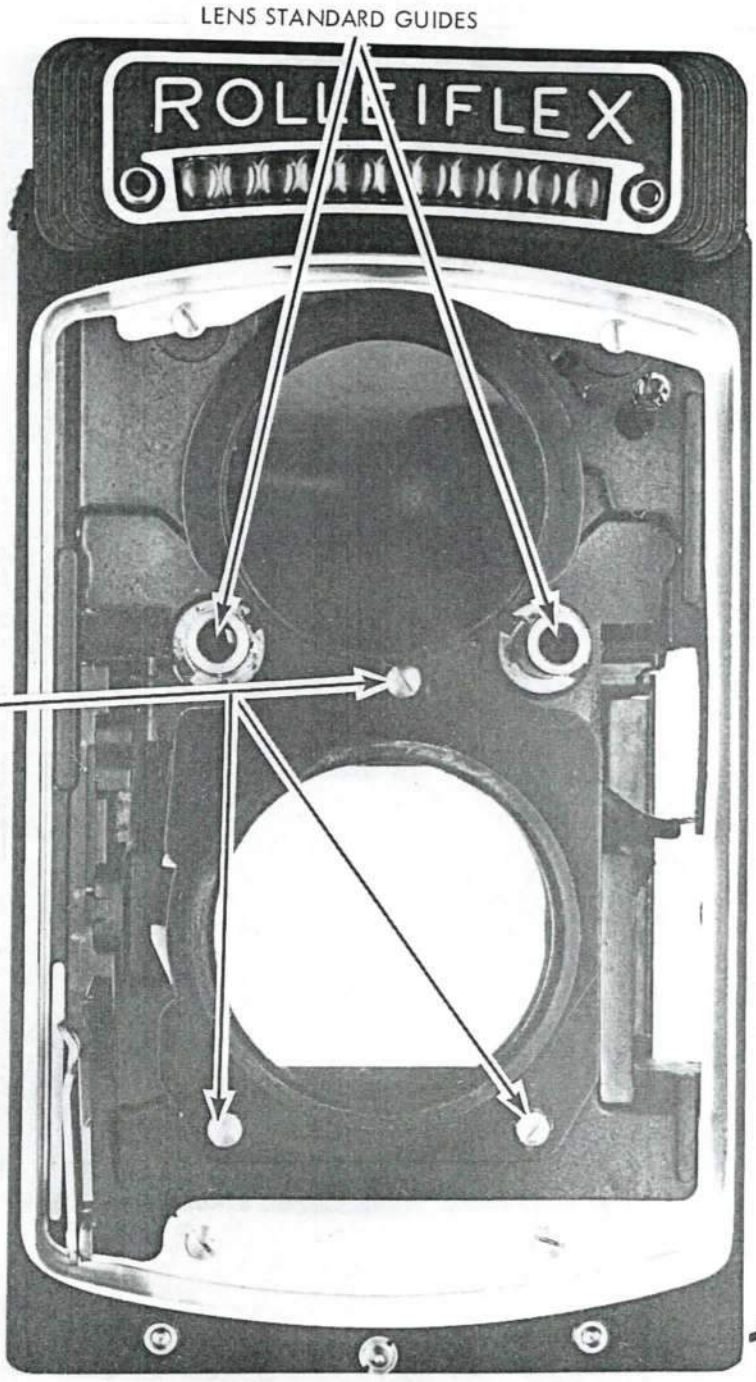
103


1. NOTE ADJUSTED POSITION OF ADJUSTABLE FOCUSING CAM FOLLOWER--REMOVE TWO SCREWS AND LIFT OUT ADJUSTABLE FOCUSING CAM FOLLOWER
2. REMOVE RAIL GUIDE SCREW (MAY HAVE WASHER UNDERNEATH)
3. SLIDE OUT WIND SIDE FOCUSING RAIL TOWARD FRONT OF CAMERA
104

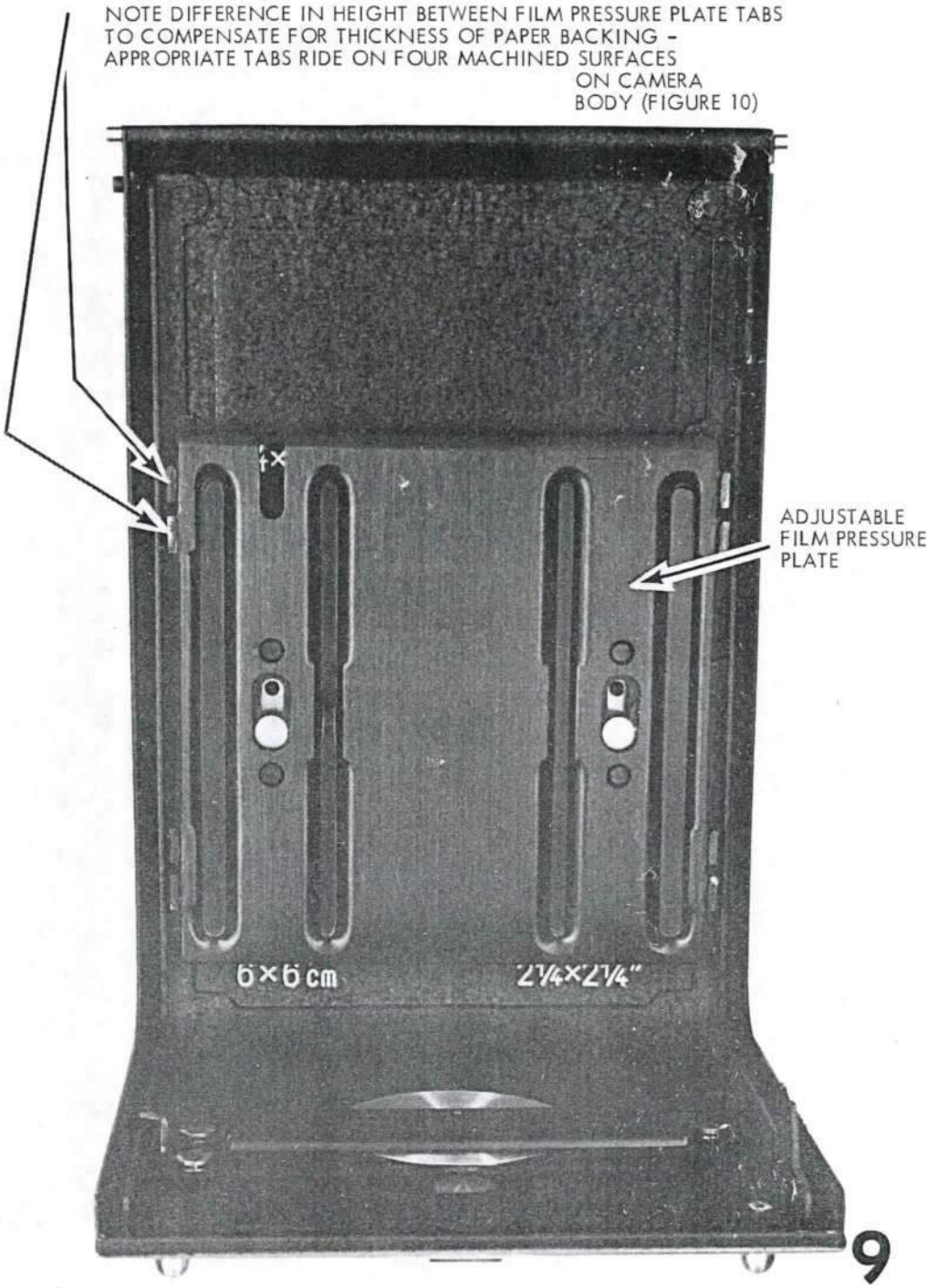

1. NOTE ADJUSTED POSITON OF ADJUSTABLE FOCUSING CAM FOLLOWER--REMOVE TWO SCREWS AND LIFT OUT ADJUSTABLE FOCUSING CAM FOLLOWER
2. REMOVE RAIL GUIDE SCREW (MAY BE WASHER UNDERNEATH)
3. SLIDE OUT FOCUS SIDE FOCUSING RAIL TOWARD FRONT OF CAMERA
NOTE DIFFERENCE BETWEEN THESE TWO SCREWS
33.3368


33.3368
PRESS OUT FOCUSING SHAFT TOWARD WIND SIDE OF CAMERA--
SPACER BETWEEN FOCUSING CAMS

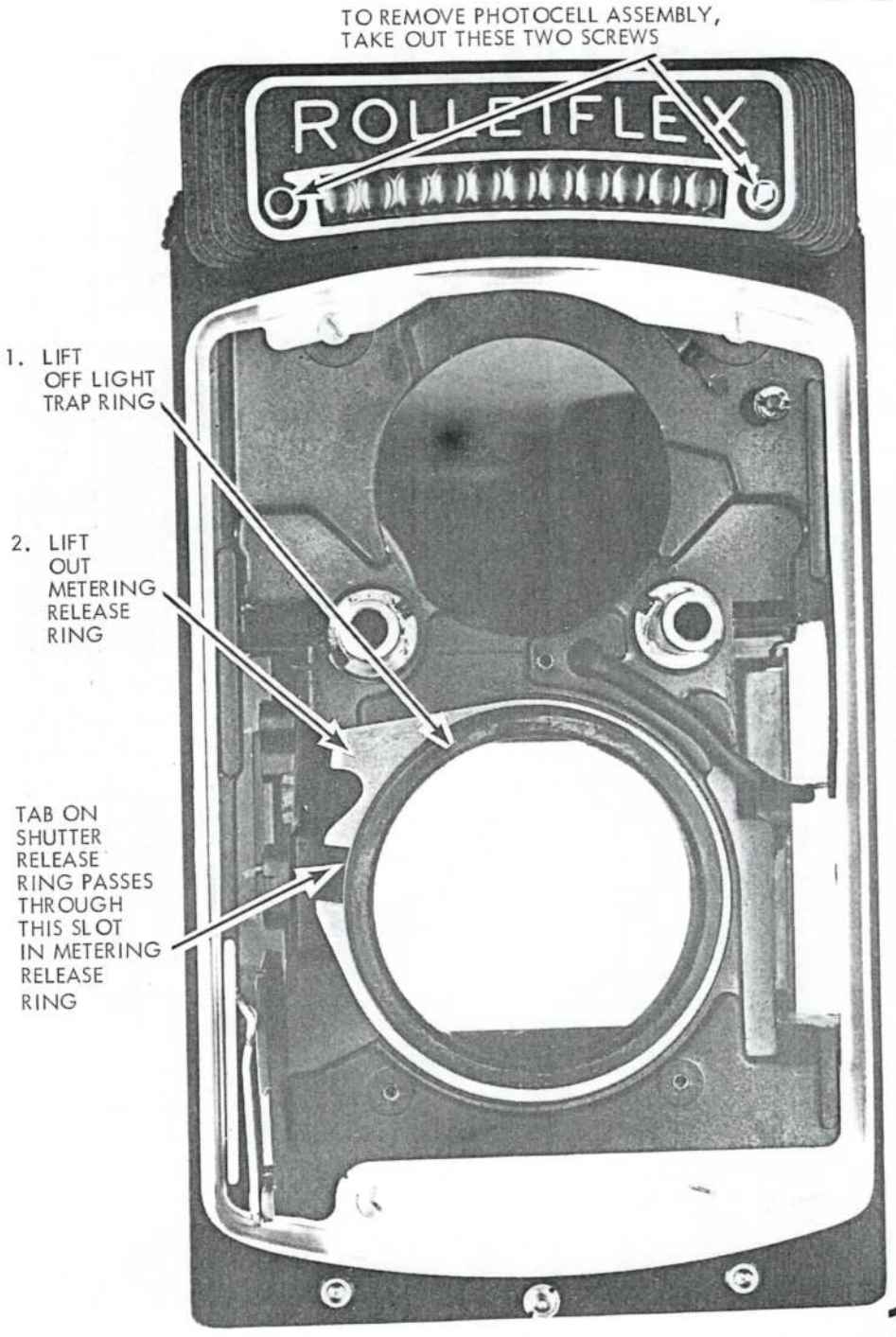
106

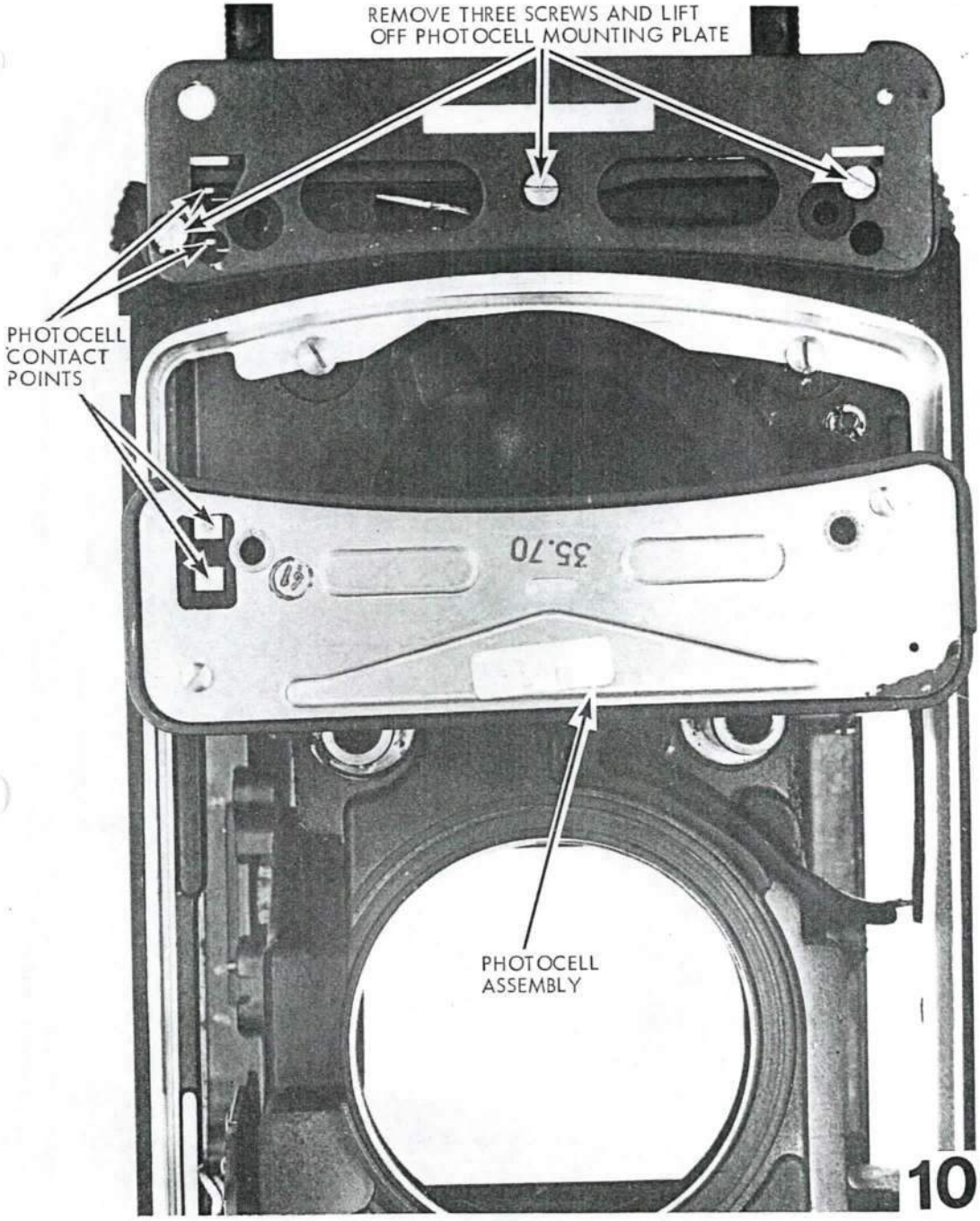

LENS STANDARD GUIDES
REMOVE THREE SCREWS AND LIFT OFF LENS GUIDE PLATE

107

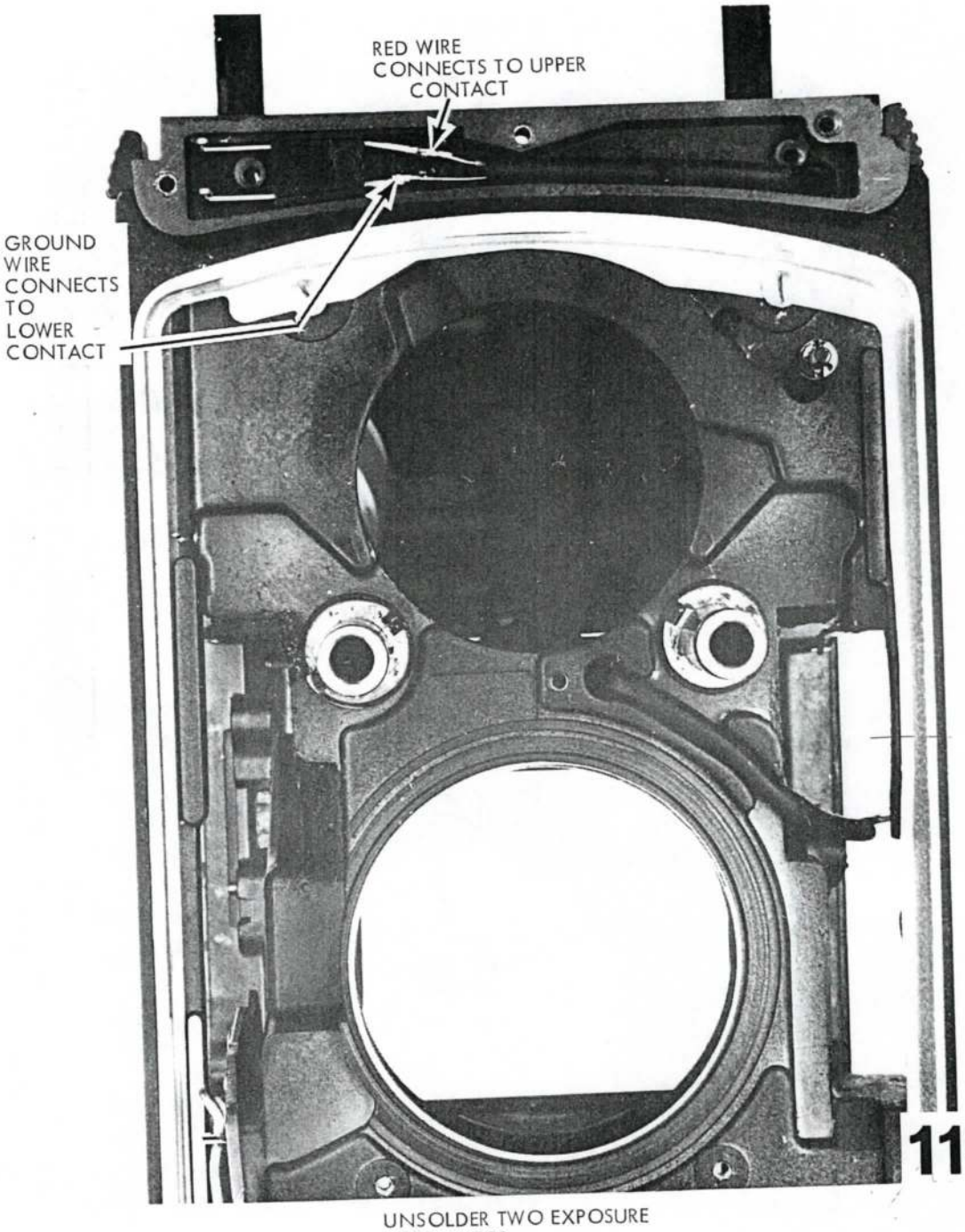

NOTE DIFFERENCE IN HEIGHT BETWEEN FILM PRESSURE PLATE TABS TO COMPENSATE FOR THICKNESS OF PAPER BACKING - APPROPRIATE TABS RIDE ON FOUR MACHINED SURFACES ON CAMERA BODY (FIGURE 10)
ADJUSTABLE FILM PRESSURE PLATE
6×6 cm
2¼×2¼"

9


TO REMOVE PHOTOCELL ASSEMBLY, TAKE OUT THESE TWO SCREWS
1. LIFT OFF LIGHT TRAP RING
2. LIFT OUT METERING RELEASE RING
TAB ON SHUTTER RELEASE RING PASSES THROUGH THIS SLOT IN METERING RELEASE RING

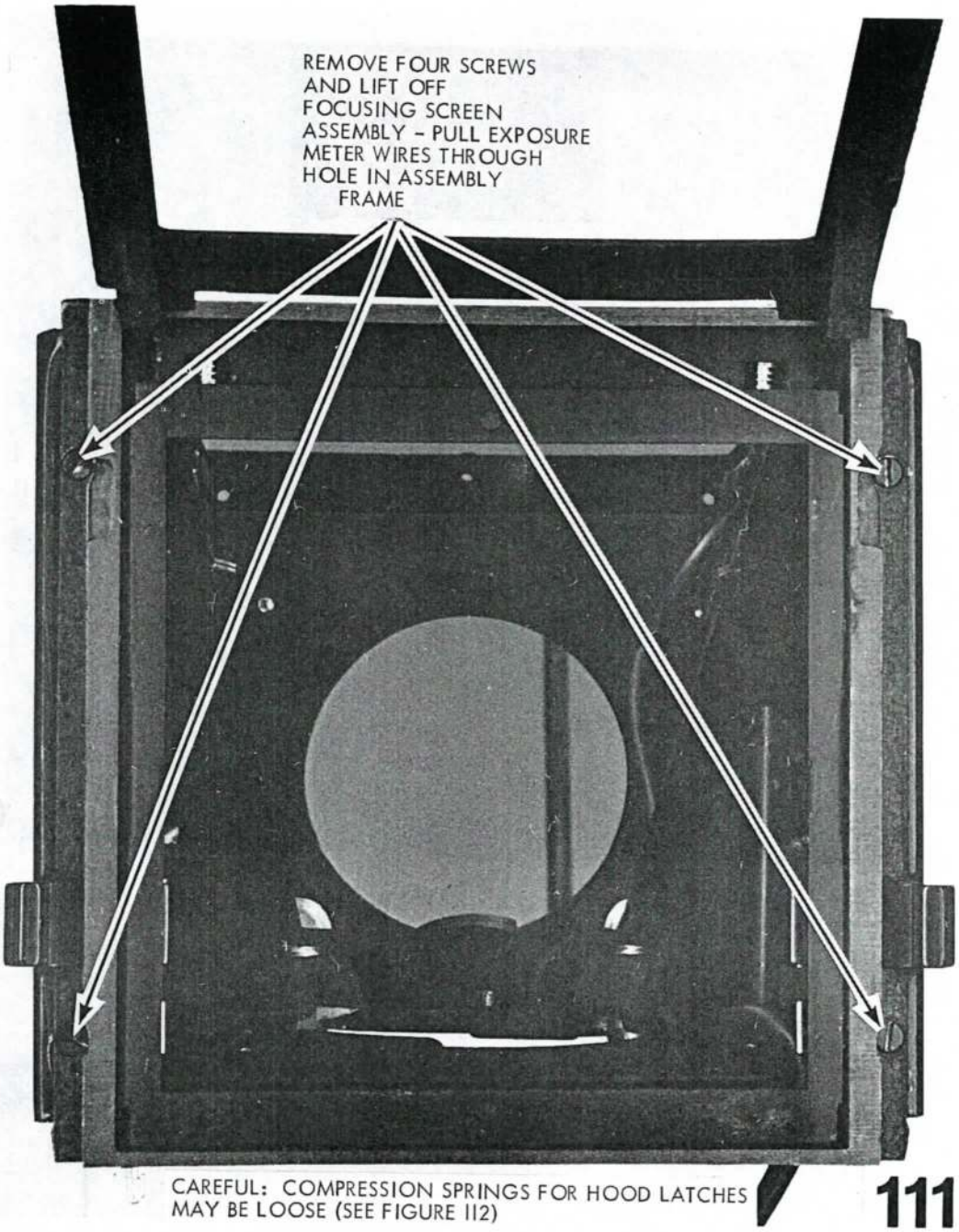

REMOVE THREE SCREWS AND LIFT OFF PHOTOCELL MOUNTING PLATE
PHOTOCELL CONTACT POINTS
PHOTOCELL ASSEMBLY
35.70

109



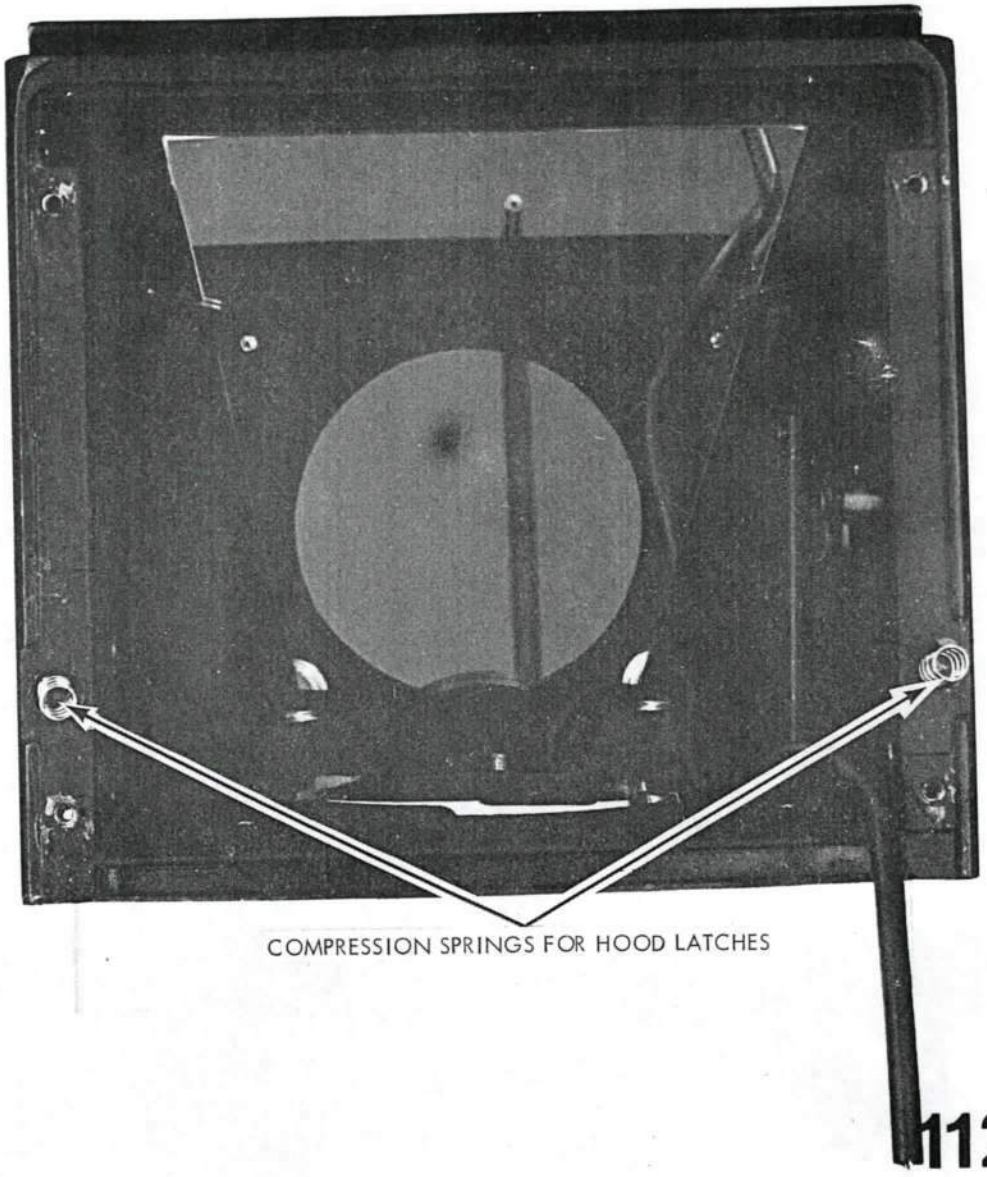
110

UNSOLDER TWO EXPOSURE
METER WIRES

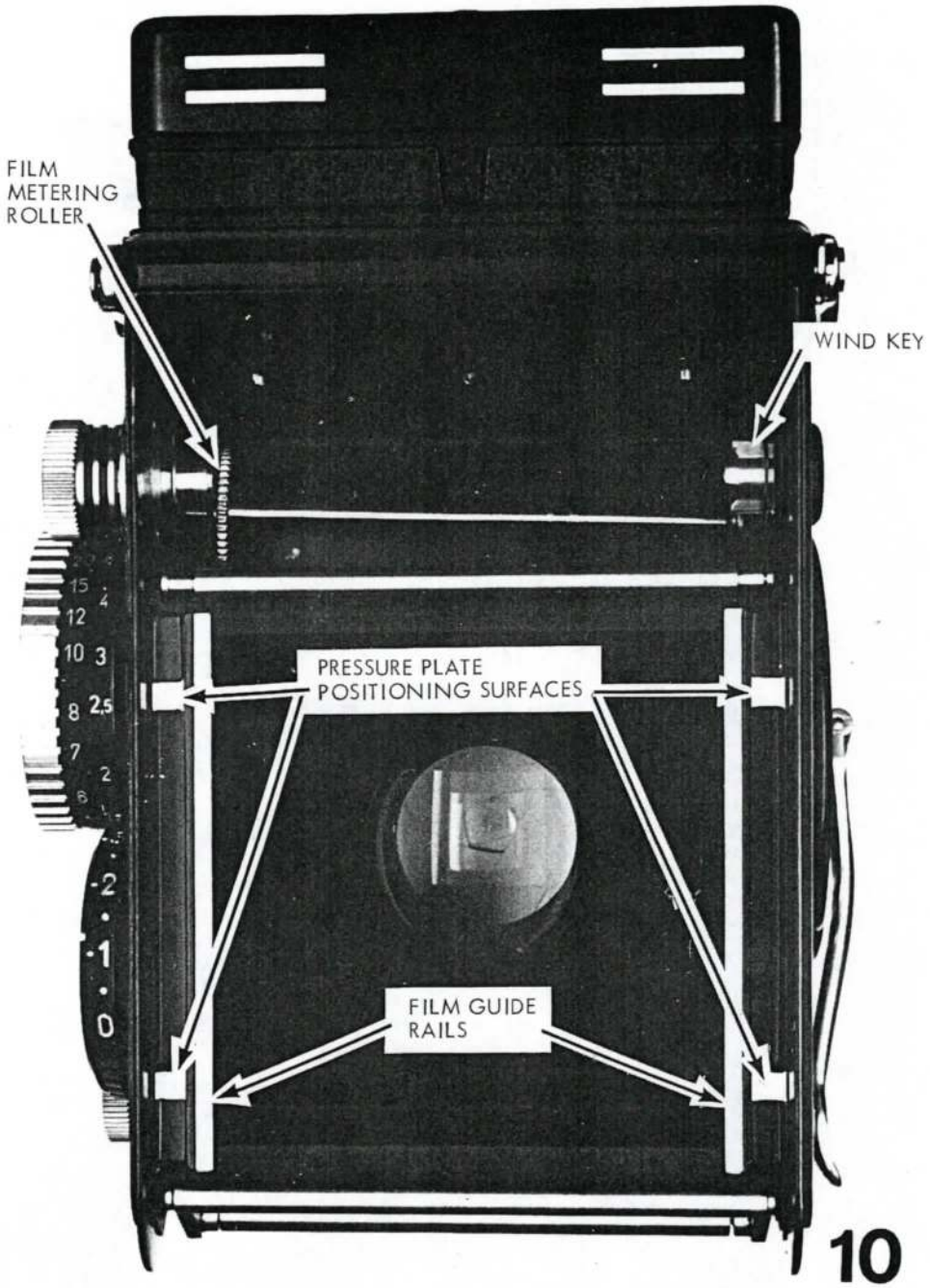


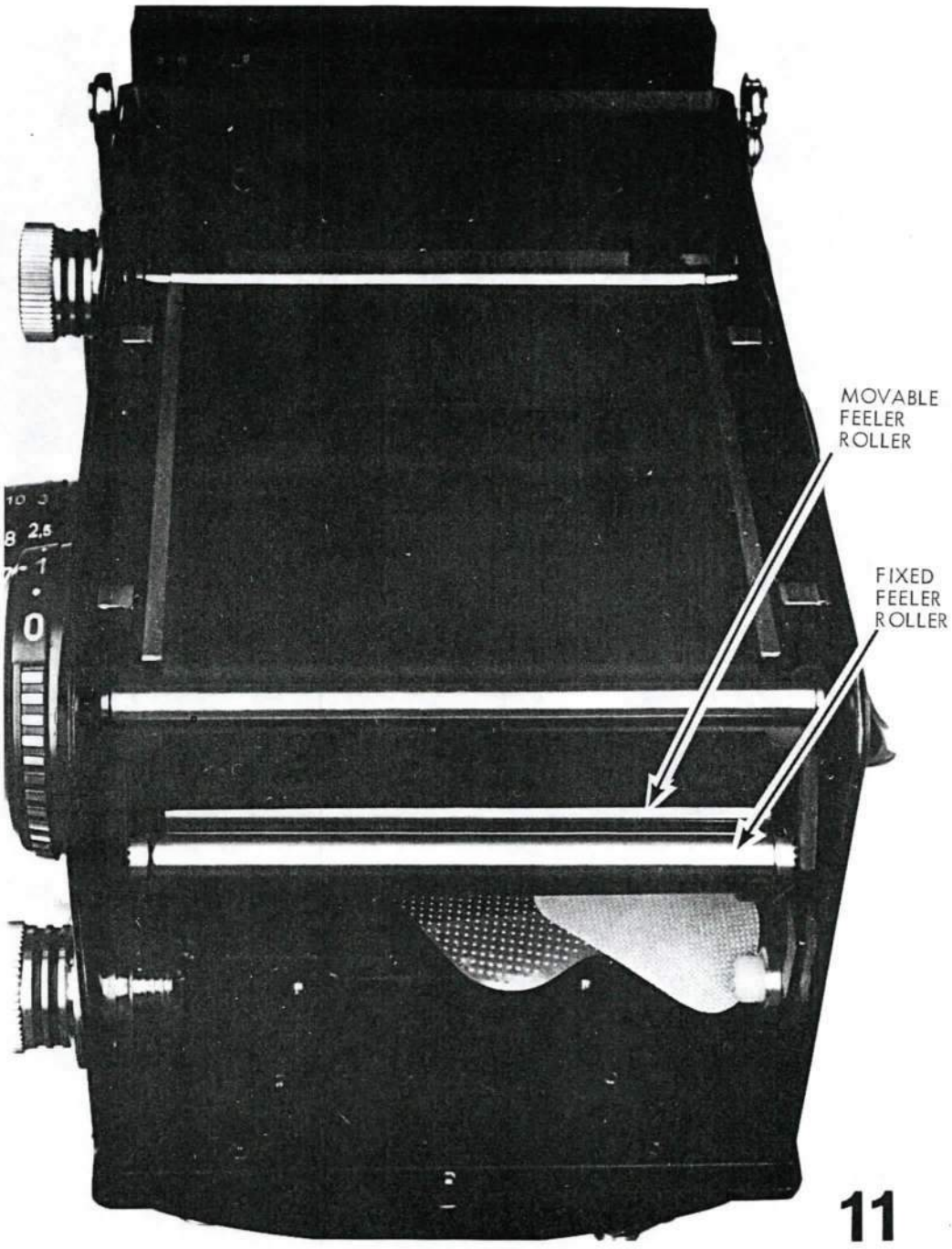
CAREFUL: COMPRESSION SPRINGS FOR HOOD LATCHES MAY BE LOOSE (SEE FIGURE 112)

111

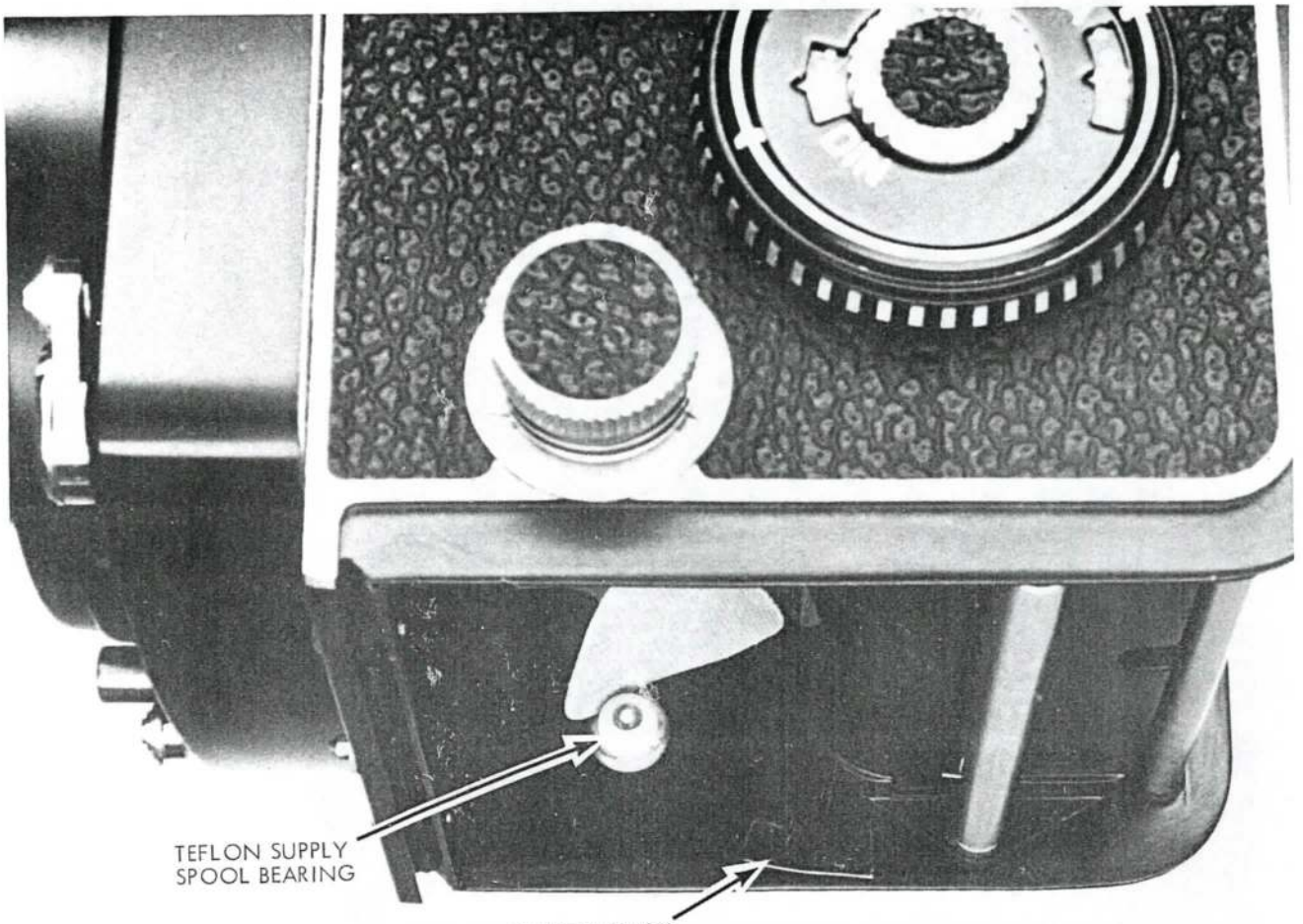


COMPRESSION SPRINGS FOR HOOD LATCHES


FILM
METERING
ROLLER
WIND KEY
PRESSURE PLATE
POSITIONING SURFACES
FILM GUIDE
RAILS

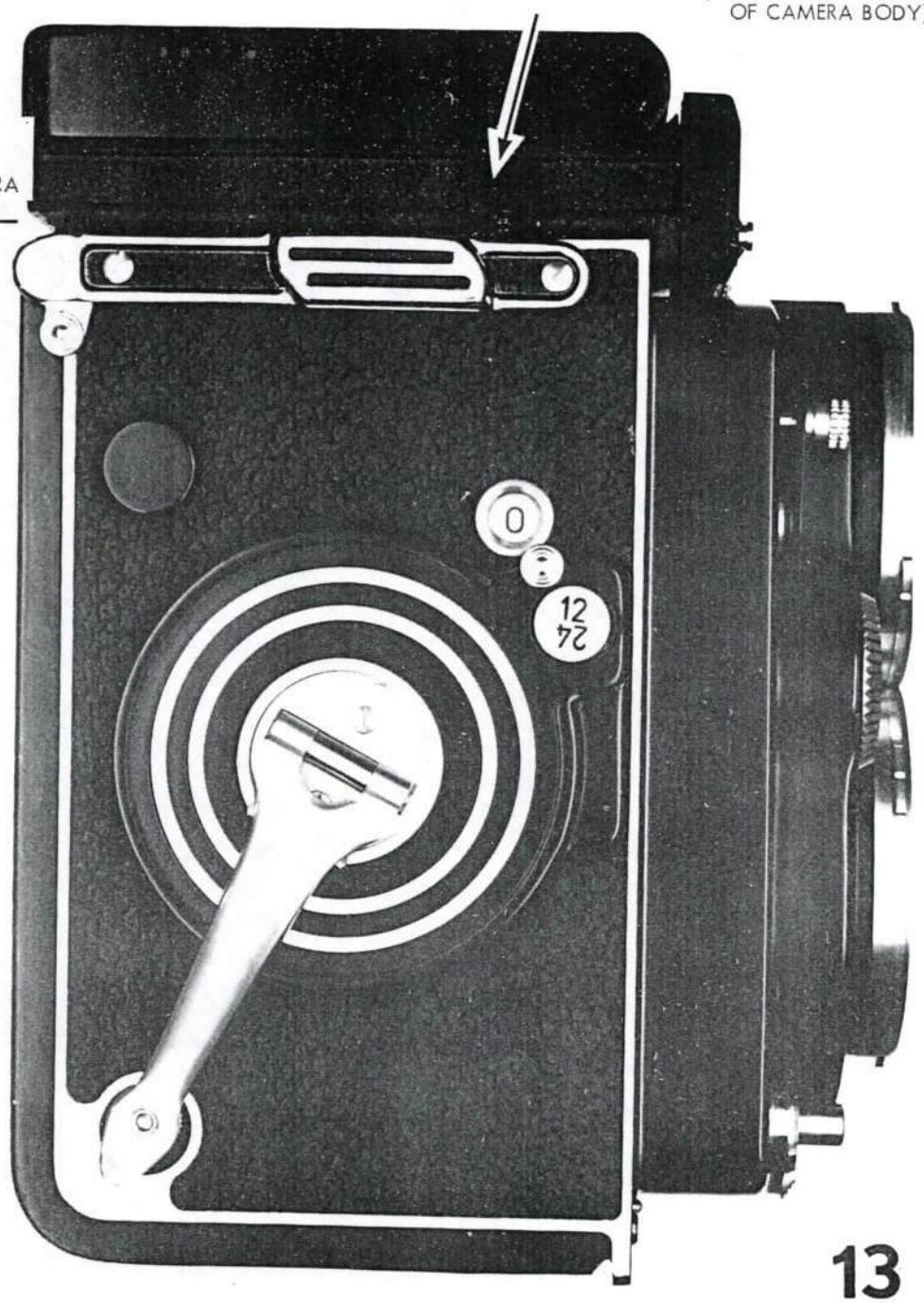


11


TEFLON SUPPLY
SPOOL BEARING
CAMERA BACK
SENSOR LEVER

TO REMOVE VIEWING HOOD: PUSH DOWN ON TWO HOOD LATCHES - (ONE ON EITHER SIDE OF CAMERA BODY)

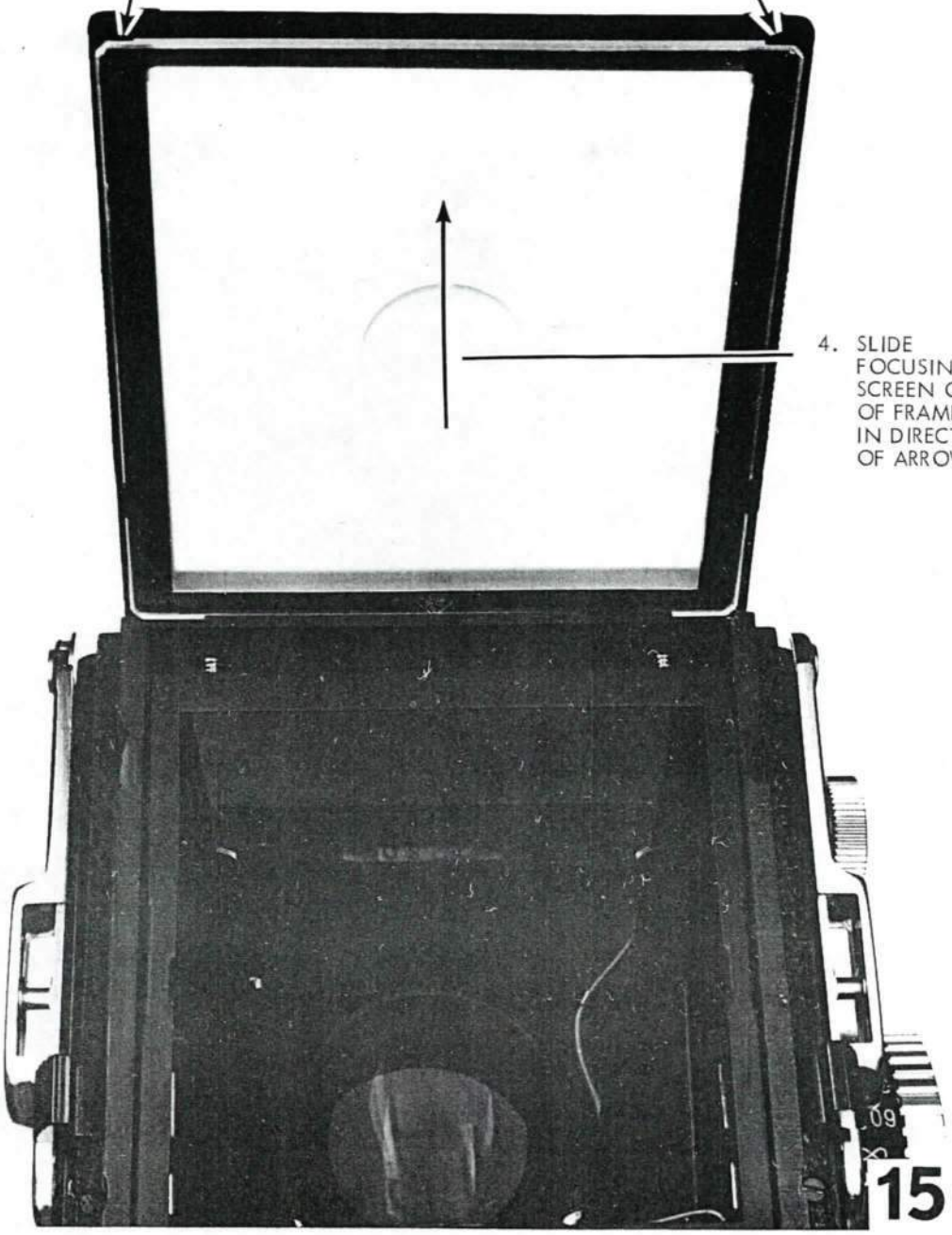
SLIDE VIEWING HOOD TOWARD BACK OF CAMERA



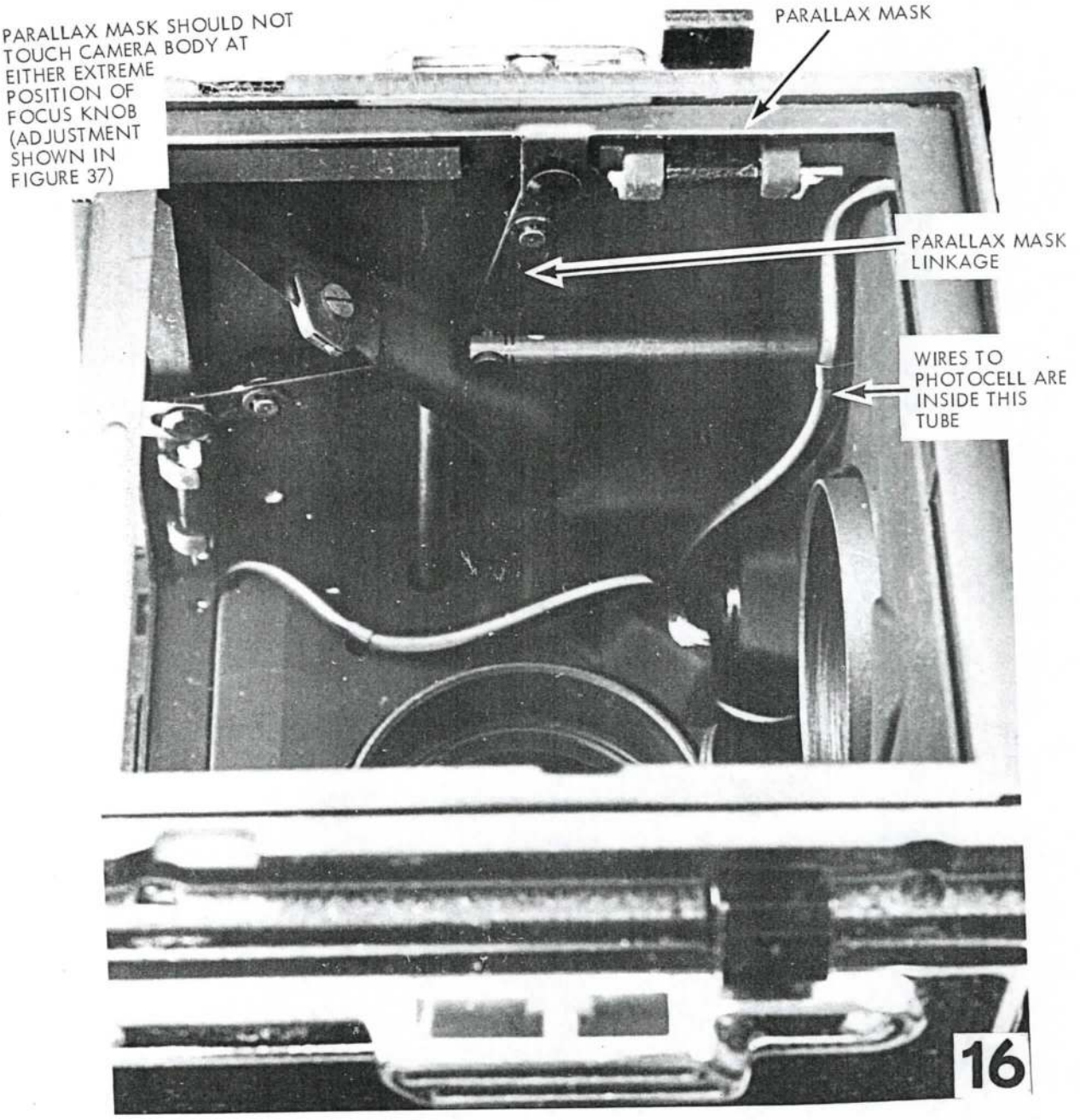
TO REMOVE FOCUSING SCREEN:

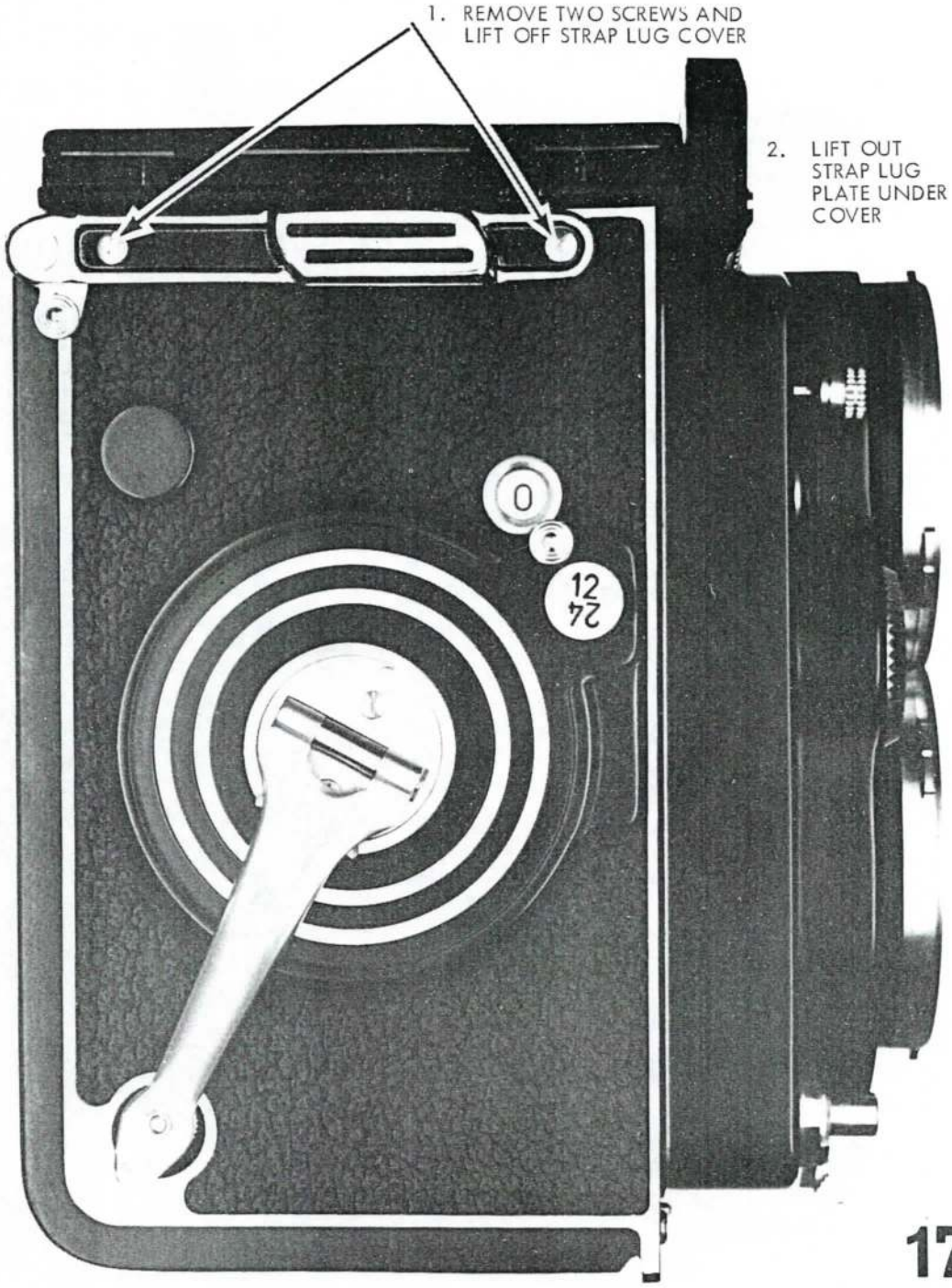
1. PUSH FOCUSING SCREEN FRAME TOWARD BACK OF CAMERA
2. SWING FOCUSING SCREEN FRAME UP AND AWAY FROM CAMERA BODY (SEE NEXT ILLUSTRATION)

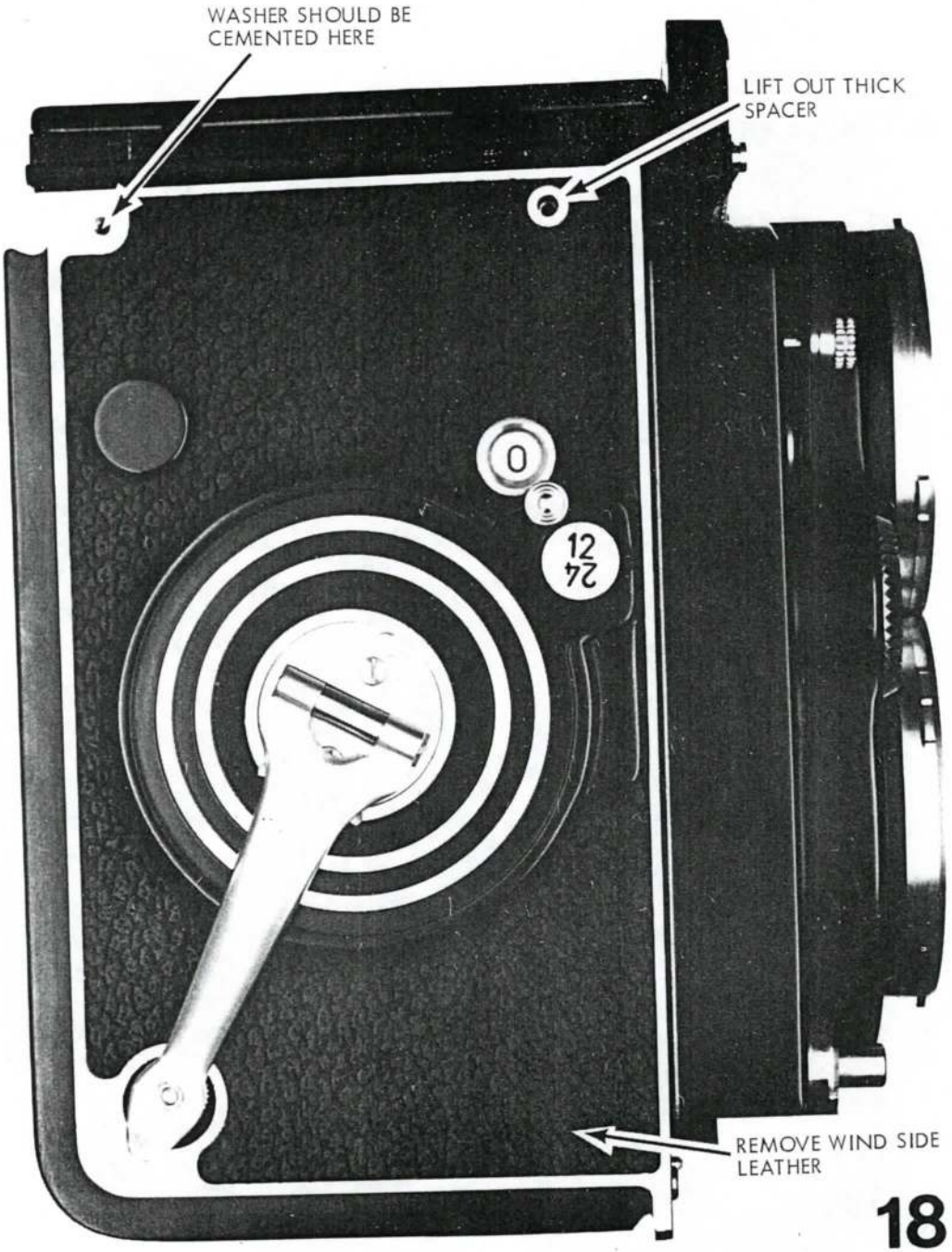
3. HOLD SPRING CLIPS AWAY FROM EDGE OF FOCUSING SCREEN

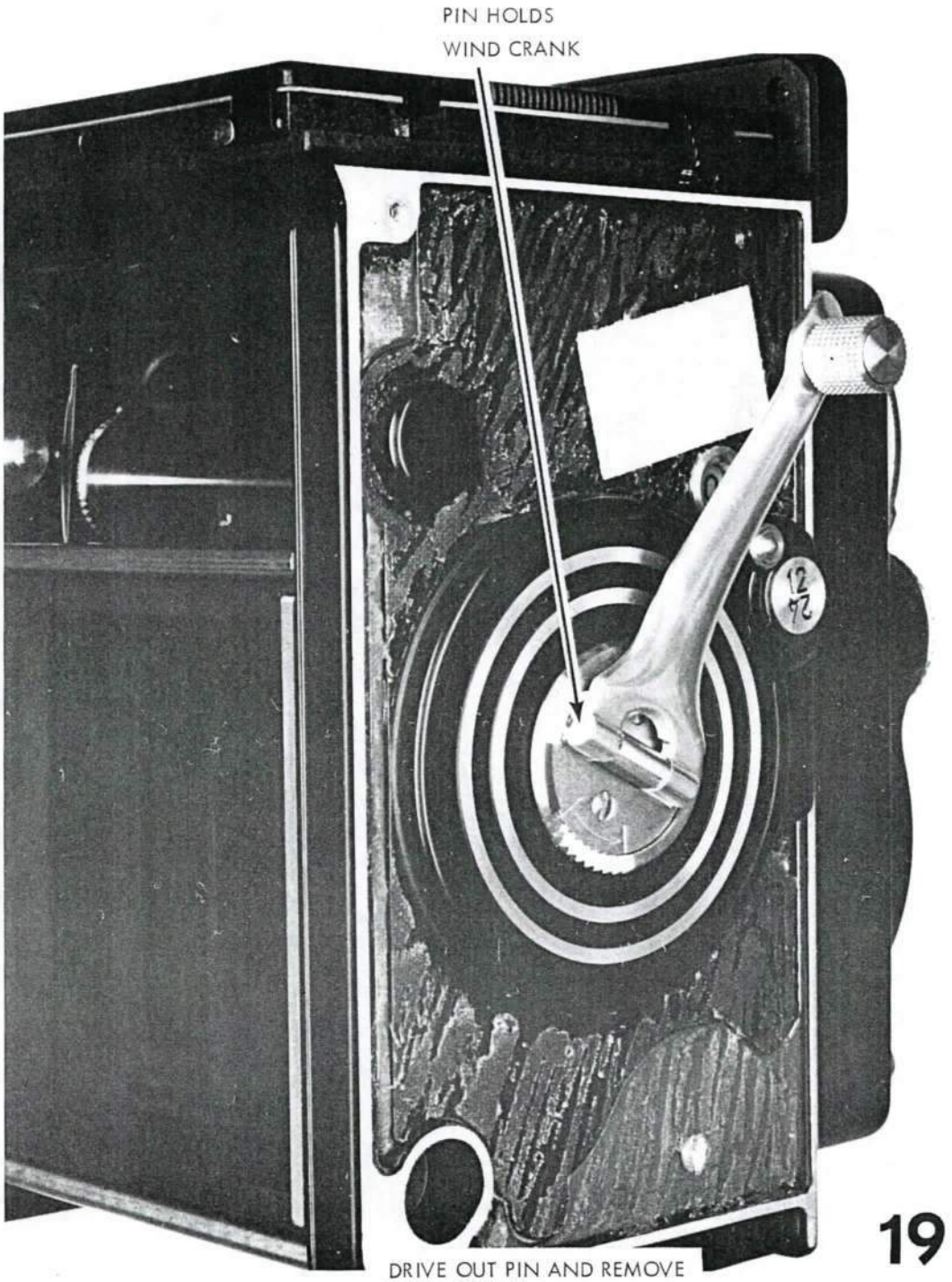


4. SLIDE FOCUSING SCREEN OUT OF FRAME IN DIRECTION OF ARROW

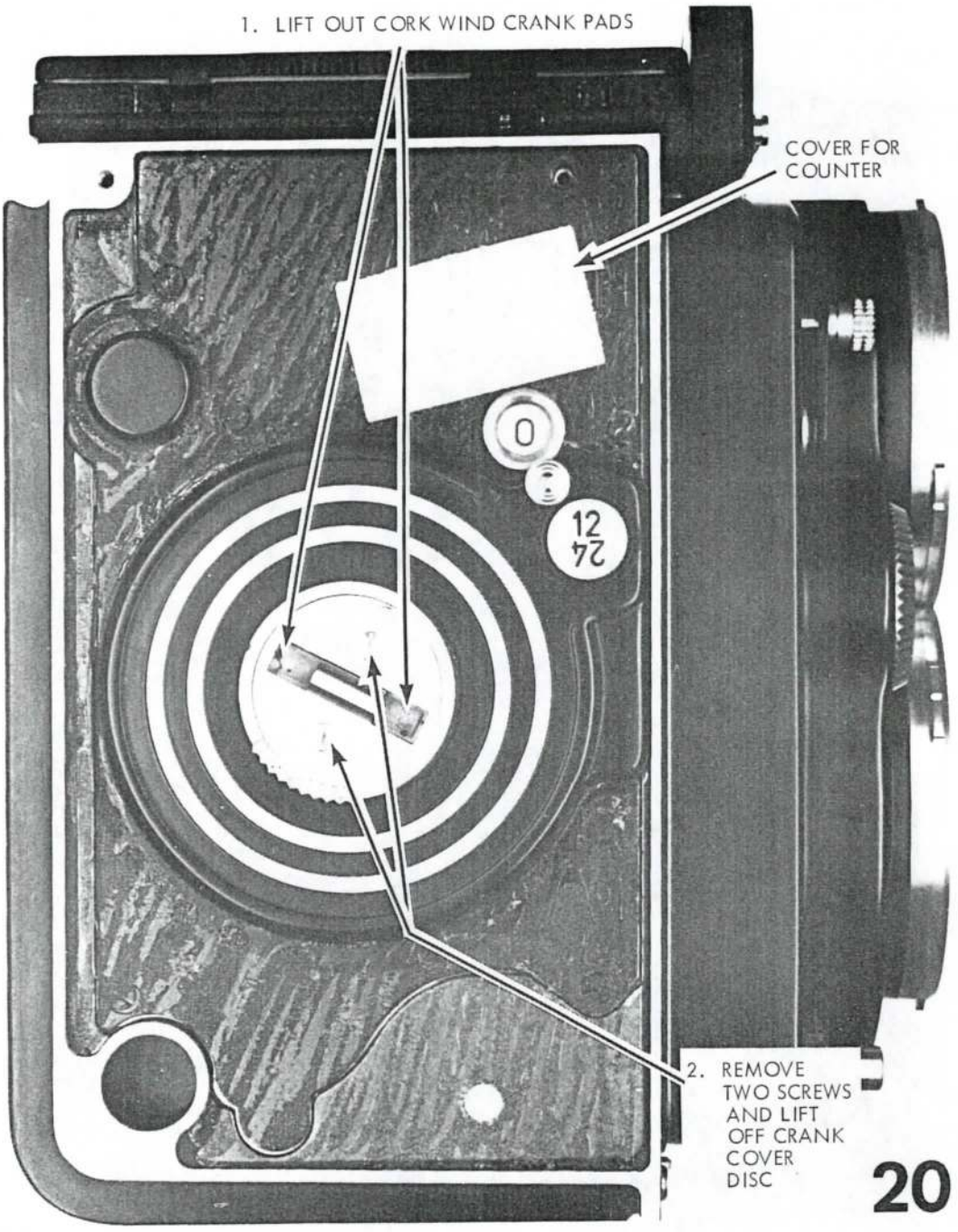

PARALLAX MASK SHOULD NOT TOUCH CAMERA BODY AT EITHER EXTREME POSITION OF FOCUS KNOB (ADJUSTMENT SHOWN IN FIGURE 37)
PARALLAX MASK
PARALLAX MASK LINKAGE
WIRES TO PHOTOCELL ARE INSIDE THIS TUBE
16

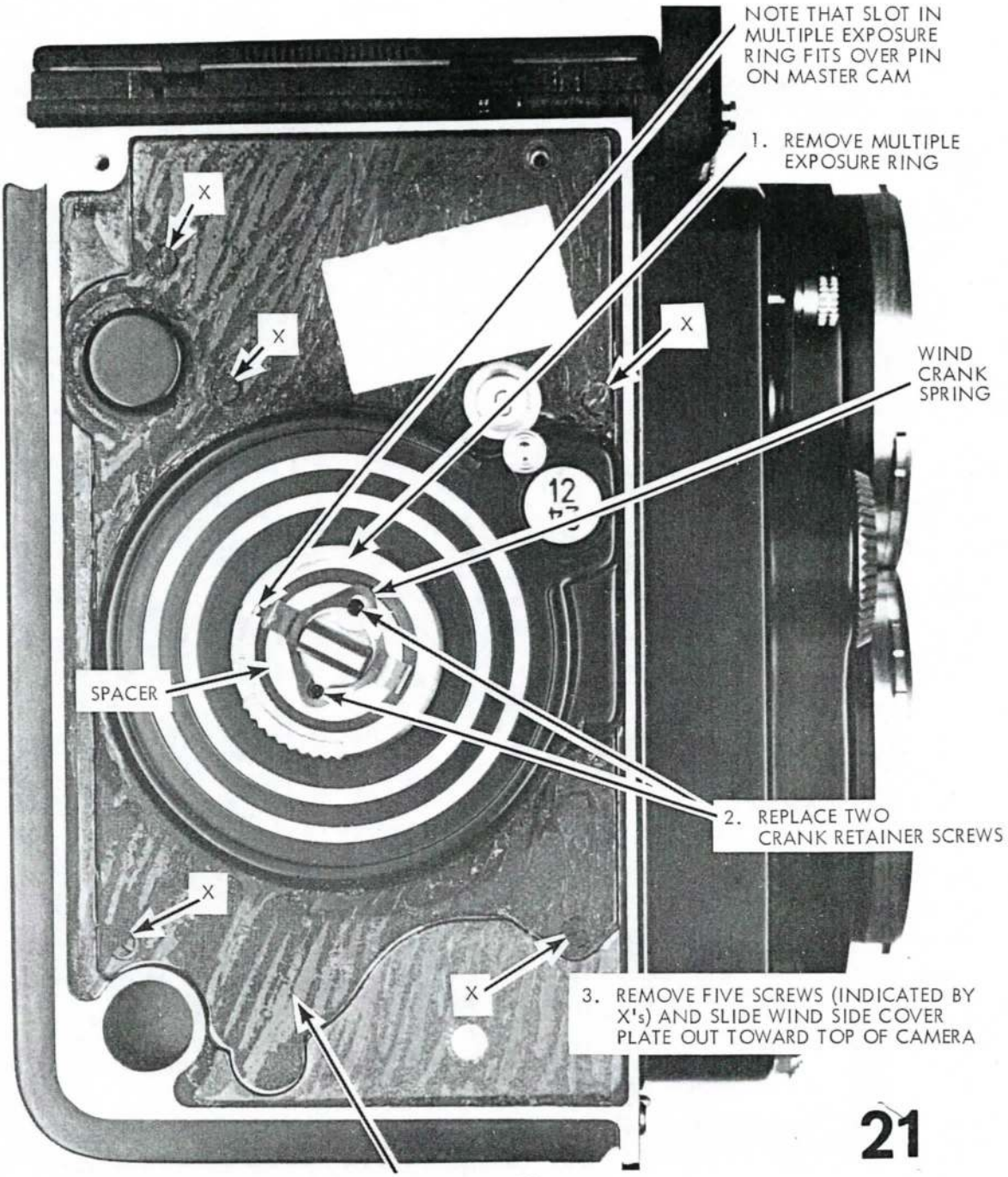

1. REMOVE TWO SCREWS AND LIFT OFF STRAP LUG COVER
2. LIFT OUT STRAP LUG PLATE UNDER COVER
0
12
24

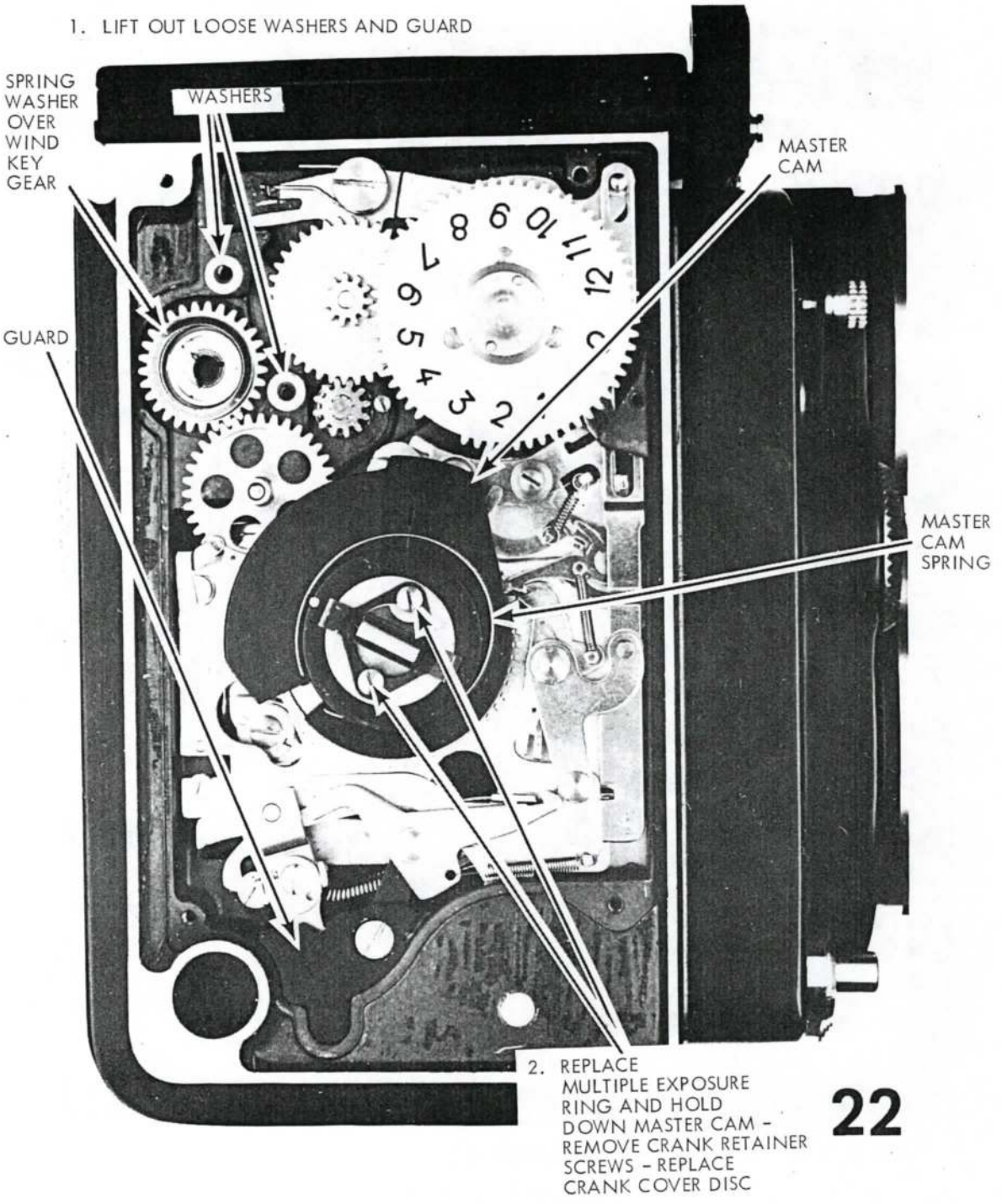

WASHER SHOULD BE CEMENTED HERE
LIFT OUT THICK SPACER
REMOVE WIND SIDE LEATHER



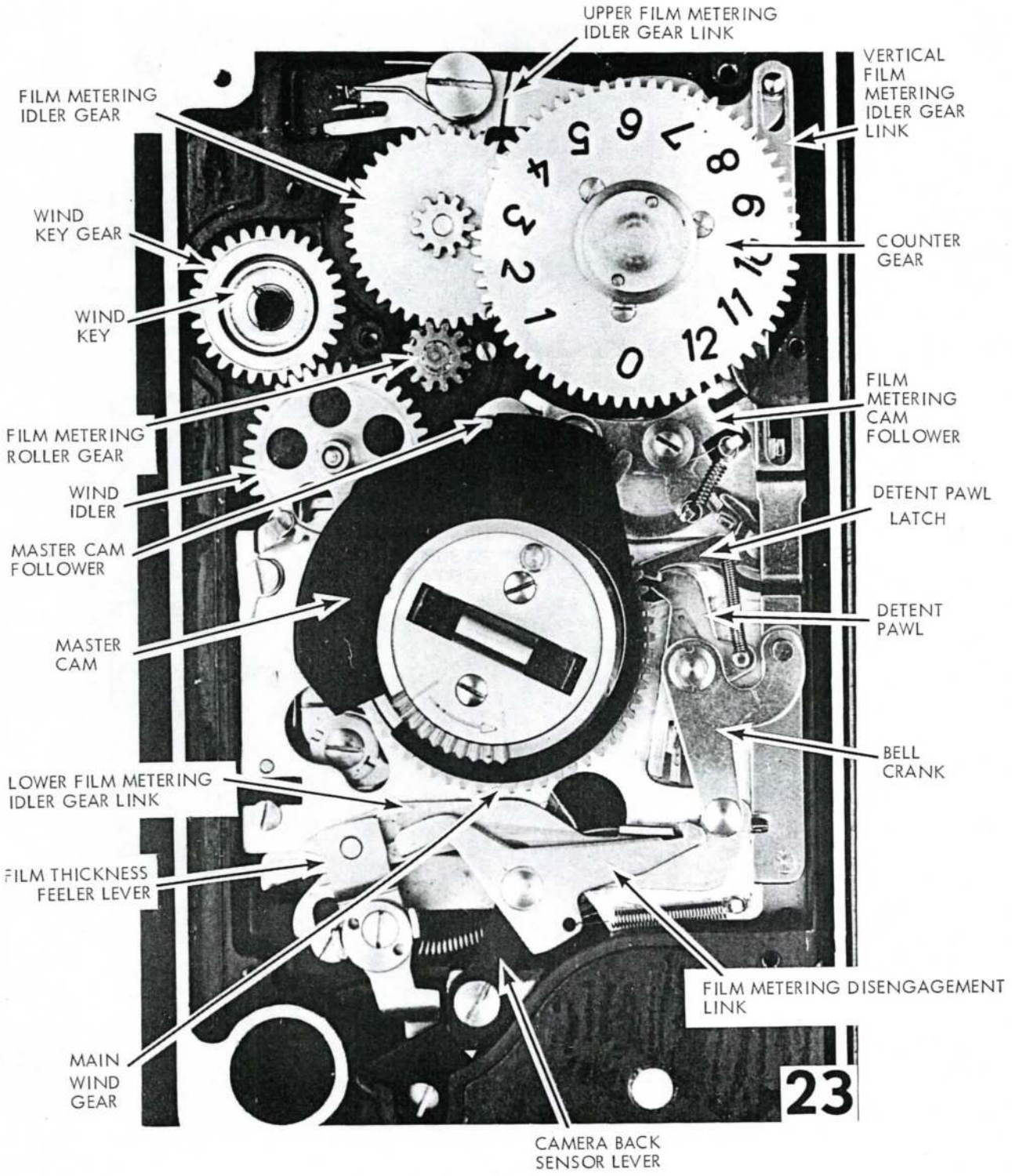
DRIVE OUT PIN AND REMOVE
WIND CRANK

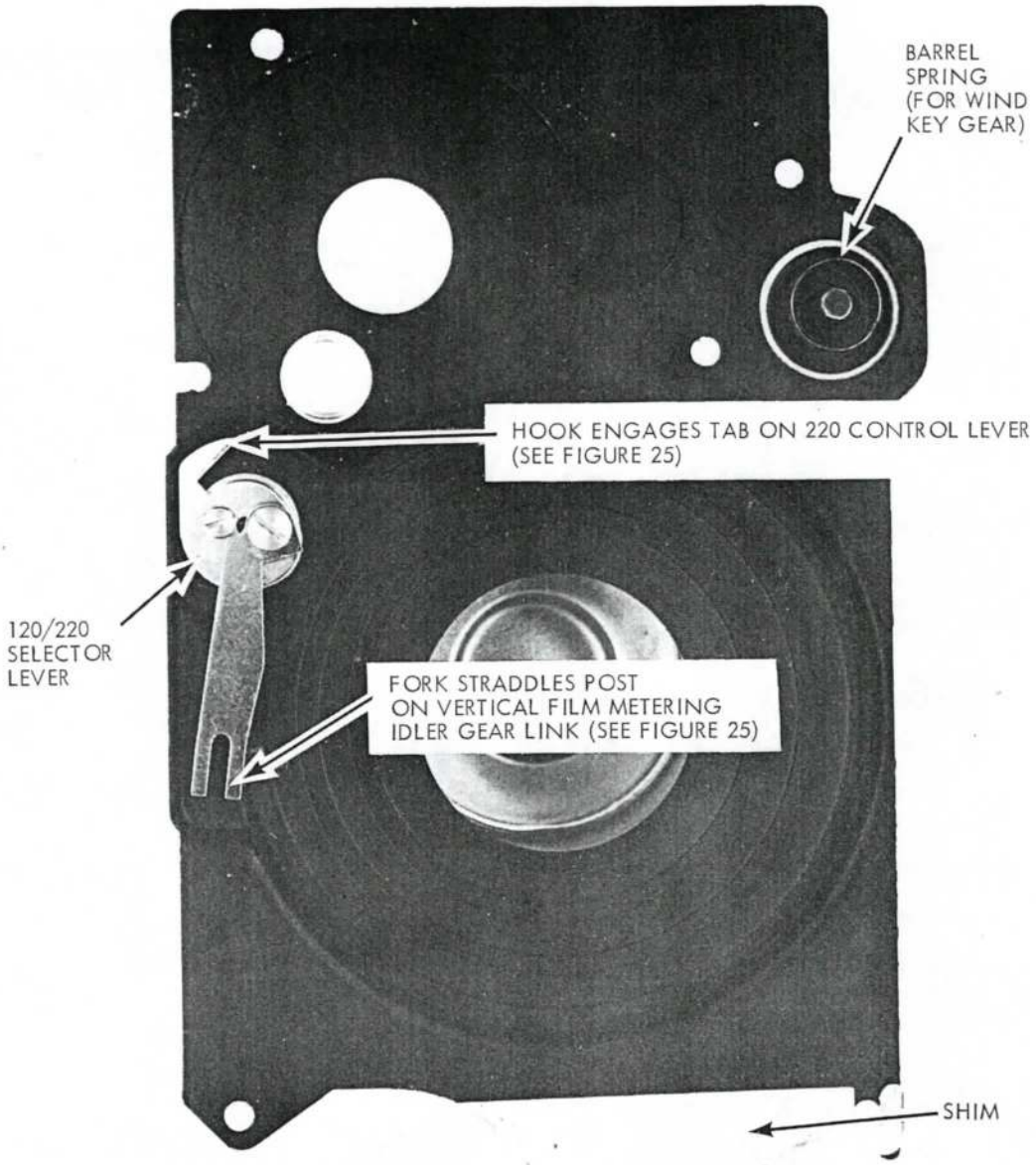

1. LIFT OUT CORK WIND CRANK PADS
COVER FOR COUNTER
0
12
24
2. REMOVE TWO SCREWS AND LIFT OFF CRANK COVER DISC


NOTE THAT SLOT IN MULTIPLE EXPOSURE RING FITS OVER PIN ON MASTER CAM
1. REMOVE MULTIPLE EXPOSURE RING
X
X
X
WIND CRANK SPRING
12
SPACER
2. REPLACE TWO CRANK RETAINER SCREWS
X
X
3. REMOVE FIVE SCREWS (INDICATED BY X's) AND SLIDE WIND SIDE COVER PLATE OUT TOWARD TOP OF CAMERA
WIND SIDE COVER PLATE


1. LIFT OUT LOOSE WASHERS AND GUARD
SPRING WASHER OVER WIND KEY GEAR
WASHERS
MASTER CAM
GUARD
MASTER CAM SPRING
2. REPLACE MULTIPLE EXPOSURE RING AND HOLD DOWN MASTER CAM - REMOVE CRANK RETAINER SCREWS - REPLACE CRANK COVER DISC
22

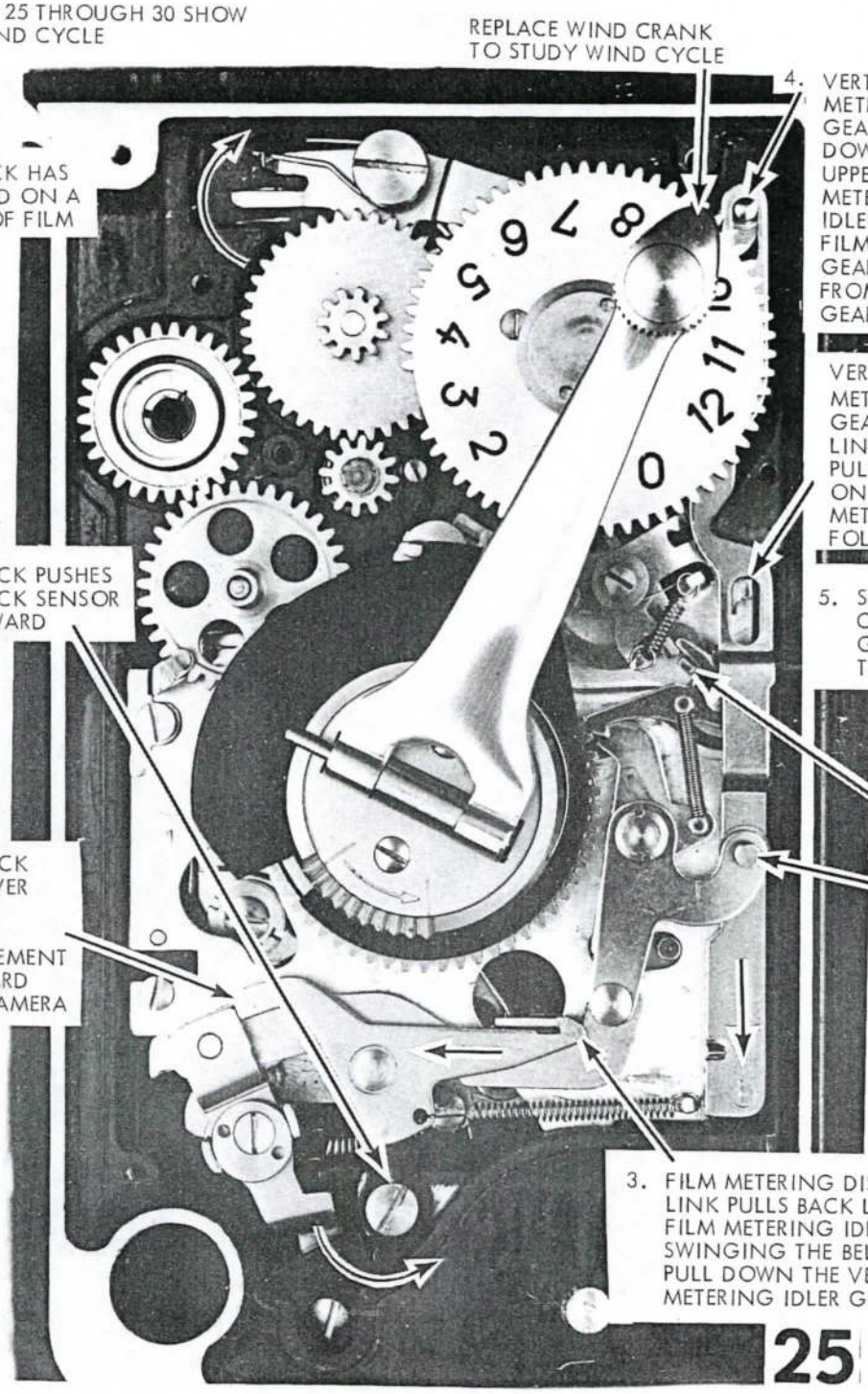
NOTE: The wind key and the wind key gear are now loose. However, we will leave these parts in place for now to examine the wind cycle. Be careful to avoid dropping out the wind key and the wind key gear during the following procedures.


UPPER FILM METERING IDLER GEAR LINK
FILM METERING IDLER GEAR
VERTICAL FILM METERING IDLER GEAR LINK
WIND KEY GEAR
COUNTER GEAR
WIND KEY
FILM METERING CAM FOLLOWER
FILM METERING ROLLER GEAR
WIND IDLER
DETENT PAWL LATCH
MASTER CAM FOLLOWER
DETENT PAWL
MASTER CAM
BELL CRANK
LOWER FILM METERING IDLER GEAR LINK
FILM THICKNESS FEELER LEVER
FILM METERING DISENGAGEMENT LINK
MAIN WIND GEAR
CAMERA BACK SENSOR LEVER
23

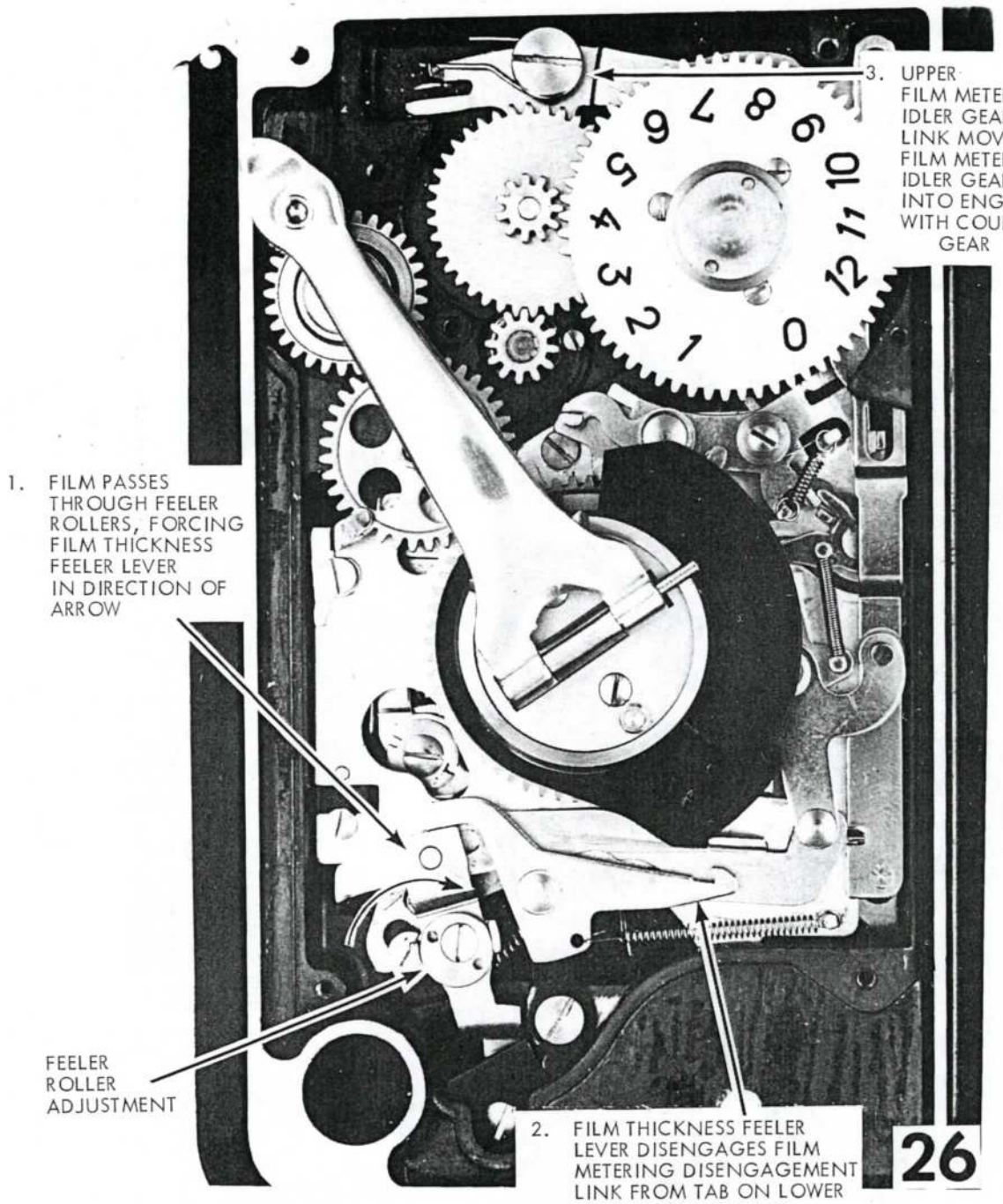

BARREL SPRING (FOR WIND KEY GEAR)
HOOK ENGAGES TAB ON 220 CONTROL LEVER (SEE FIGURE 25)
120/220 SELECTOR LEVER
FORK STRADDLES POST ON VERTICAL FILM METERING IDLER GEAR LINK (SEE FIGURE 25)
SHIM

INSIDE OF WIND SIDE COVER PLATE

FIGURES 25 THROUGH 30 SHOW
FILM WIND CYCLE



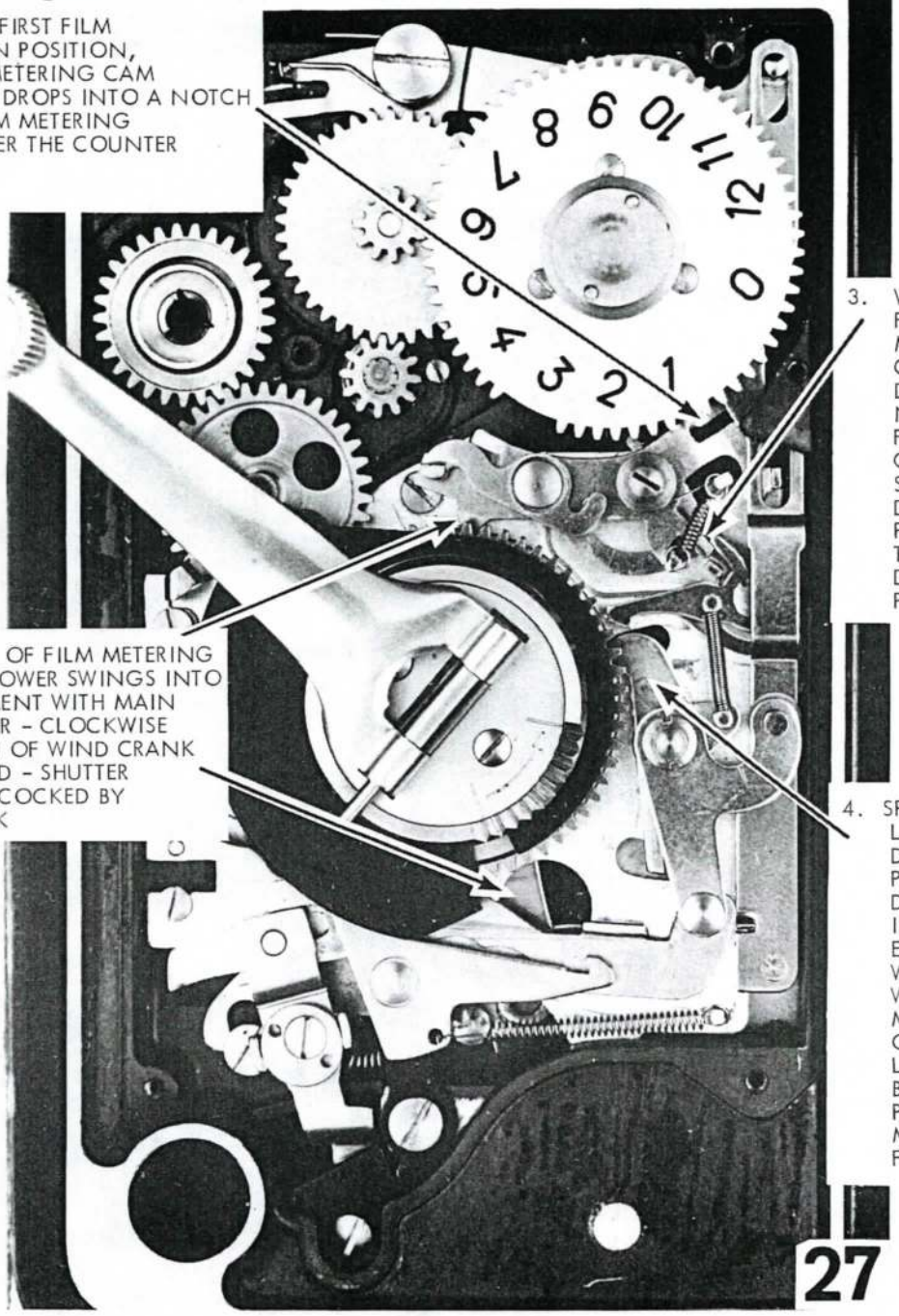
ADVANCING WIND CRANK WINDS FILM ONTO TAKE-UP SPOOL


3. UPPER FILM METERING IDLER GEAR LINK MOVES FILM METERING IDLER GEAR INTO ENGAGEMENT WITH COUNTER GEAR
1. FILM PASSES THROUGH FEELER ROLLERS, FORCING FILM THICKNESS FEELER LEVER IN DIRECTION OF ARROW
FEELER ROLLER ADJUSTMENT
2. FILM THICKNESS FEELER LEVER DISENGAGES FILM METERING DISENGAGEMENT LINK FROM TAB ON LOWER FILM METERING IDLER GEAR LINK
26

ADJUSTMENT: The feeler roller adjustment determines the point at which the film metering disengagement link disengages from the lower film metering idler gear link. The disengagement must occur as soon as the film passes through the feeler rollers. As a safety factor, set the eccentric so the link disengages as the tape (holding the film to the paper backing) passes through the feeler rollers. Then, in the event your customer uses a film thinner than your test film, you can nonetheless be assured the camera will meter properly.

METERING ROLLER GEAR TURNS THE FILM METERING IDLER GEAR TO ADVANCE THE COUNTER GEAR.

1. WHEN THE FIRST FILM FRAME IS IN POSITION, THE FILM METERING CAM FOLLOWER DROPS INTO A NOTCH IN THE FILM METERING CAM (UNDER THE COUNTER GEAR)



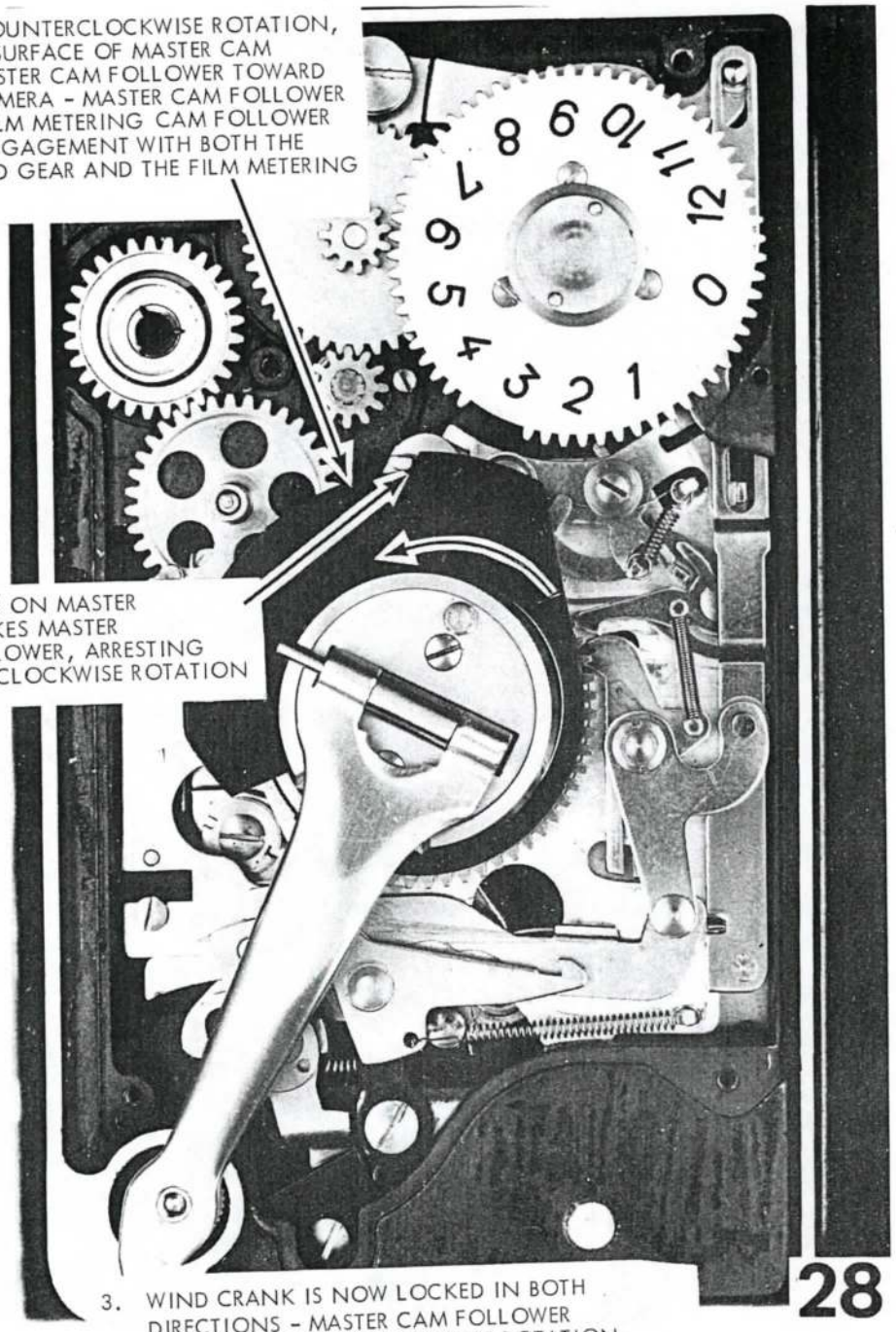
2. PAWL END OF FILM METERING CAM FOLLOWER SWINGS INTO ENGAGEMENT WITH MAIN WIND GEAR - CLOCKWISE ROTATION OF WIND CRANK IS BLOCKED - SHUTTER HAS BEEN COCKED BY WIND LINK

3. WHEN FILM METERING CAM FOLLOWER DROPS INTO NOTCH IN FILM METERING CAM, IT STRIKES DETENT PAWL LATCH TO DISENGAGE DETENT PAWL

4. SPRING-LOADED DETENT PAWL DROPS INTO ENGAGEMENT WITH MAIN WIND GEAR - MAIN WIND GEAR IS NOW LATCHED BY BOTH DETENT PAWL AND FILM METERING CAM FOLLOWER

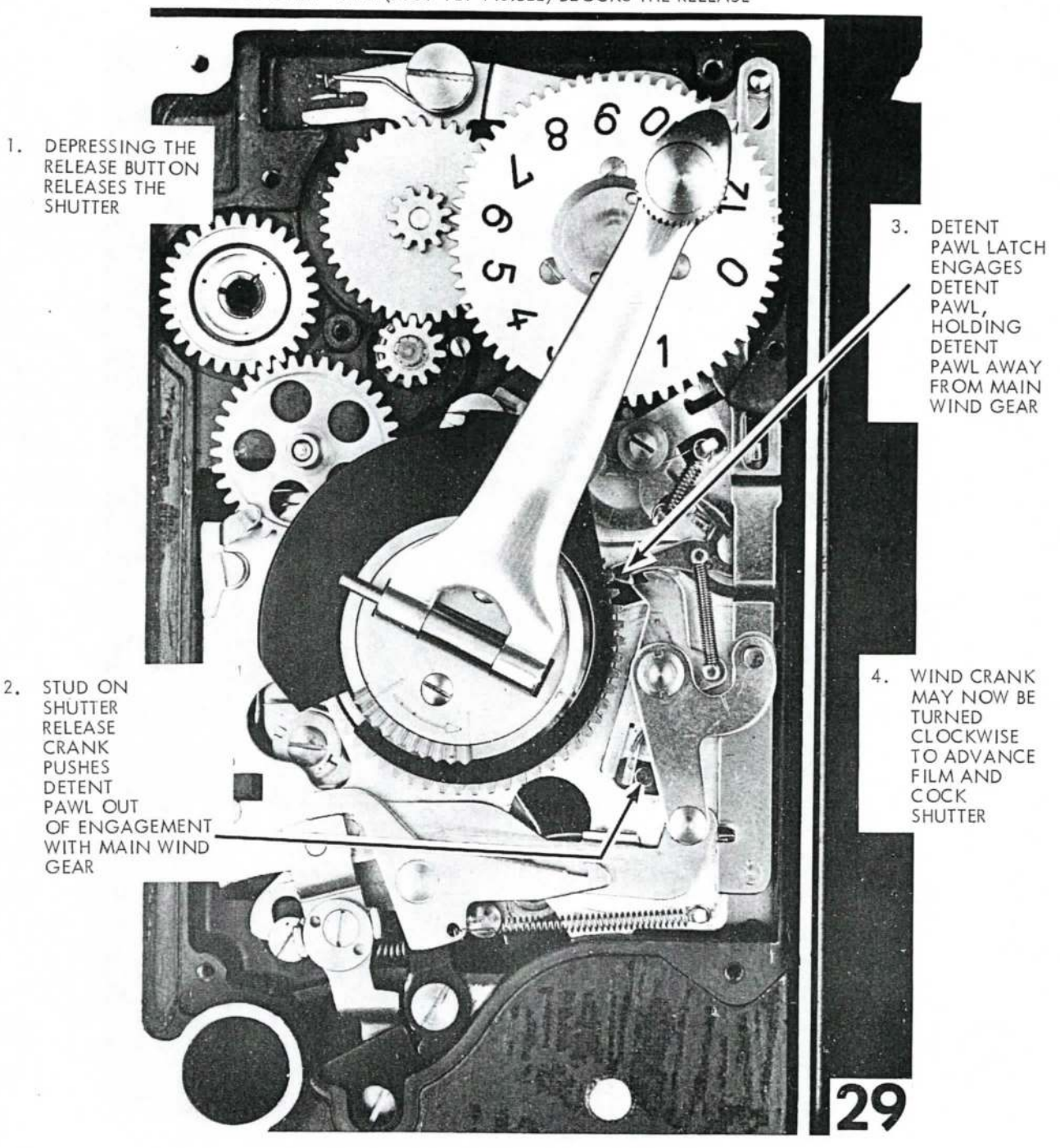
YOU CAN NOW TURN THE WIND CRANK ONLY IN A COUNTERCLOCKWISE DIRECTION - THE ONE-WAY CLUTCH (UNDER THE MASTER CAM) PERMITS COUNTERCLOCKWISE ROTATION.

1. DURING COUNTERCLOCKWISE ROTATION, INCLINED SURFACE OF MASTER CAM PUSHES MASTER CAM FOLLOWER TOWARD TOP OF CAMERA - MASTER CAM FOLLOWER SWINGS FILM METERING CAM FOLLOWER OUT OF ENGAGEMENT WITH BOTH THE MAIN WIND GEAR AND THE FILM METERING CAM



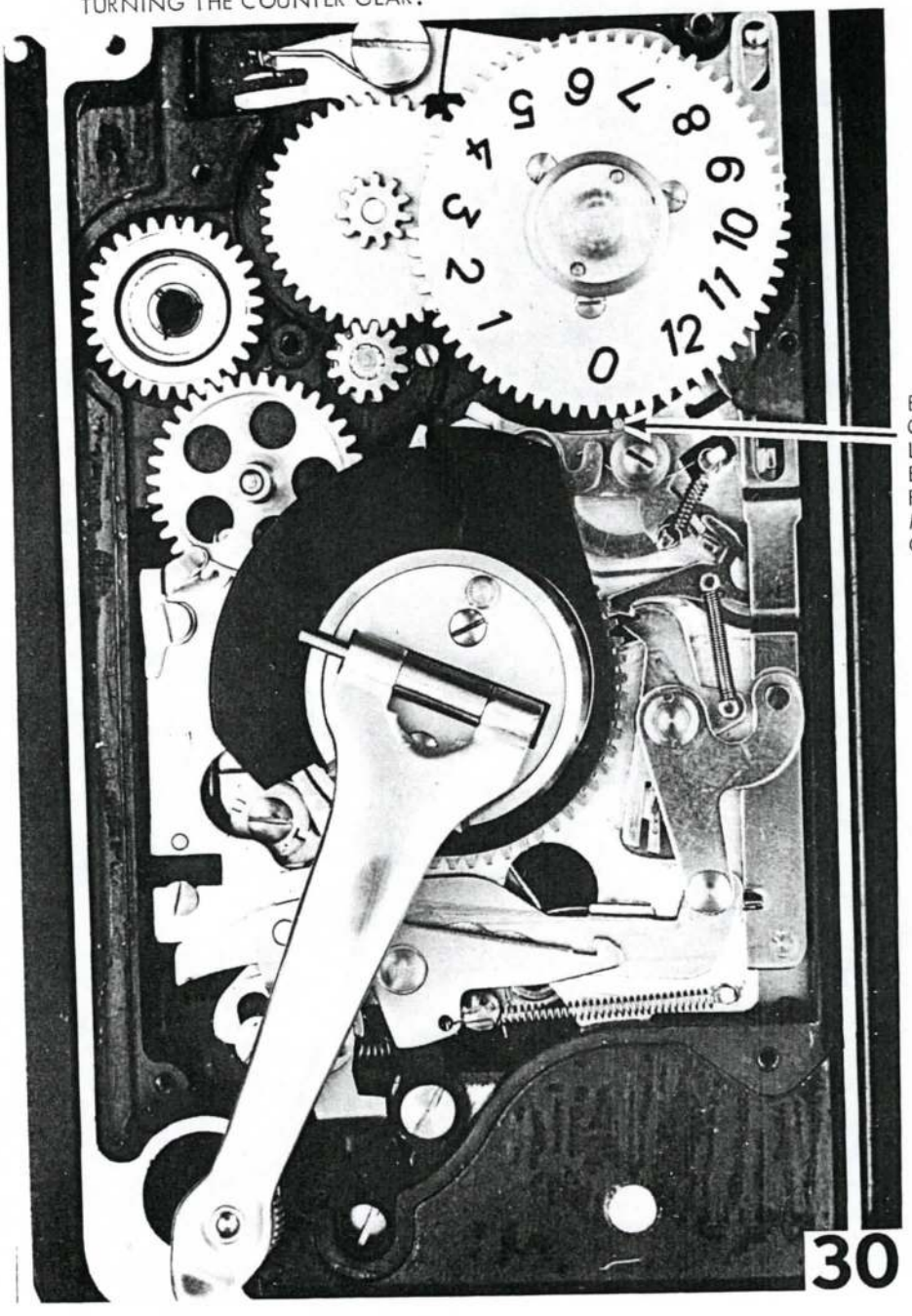
2. SHOULDER ON MASTER CAM STRIKES MASTER CAM FOLLOWER, ARRESTING COUNTERCLOCKWISE ROTATION

3. WIND CRANK IS NOW LOCKED IN BOTH DIRECTIONS - MASTER CAM FOLLOWER PREVENTS COUNTERCLOCKWISE ROTATION, AND DETENT PAWL PREVENTS CLOCKWISE ROTATION


THE WIND CRANK MUST BE IN THIS POSITION BEFORE RELEASE BUTTON CAN BE DEPRESSED - IN ANY OTHER POSITION, THE SECONDARY CAM (NOT YET VISIBLE) BLOCKS THE RELEASE
1. DEPRESSING THE RELEASE BUTTON RELEASES THE SHUTTER
2. STUD ON SHUTTER RELEASE CRANK PUSHES DETENT PAWL OUT OF ENGAGEMENT WITH MAIN WIND GEAR
3. DETENT PAWL LATCH ENGAGES DETENT PAWL, HOLDING DETENT PAWL AWAY FROM MAIN WIND GEAR
4. WIND CRANK MAY NOW BE TURNED CLOCKWISE TO ADVANCE FILM AND COCK SHUTTER
29

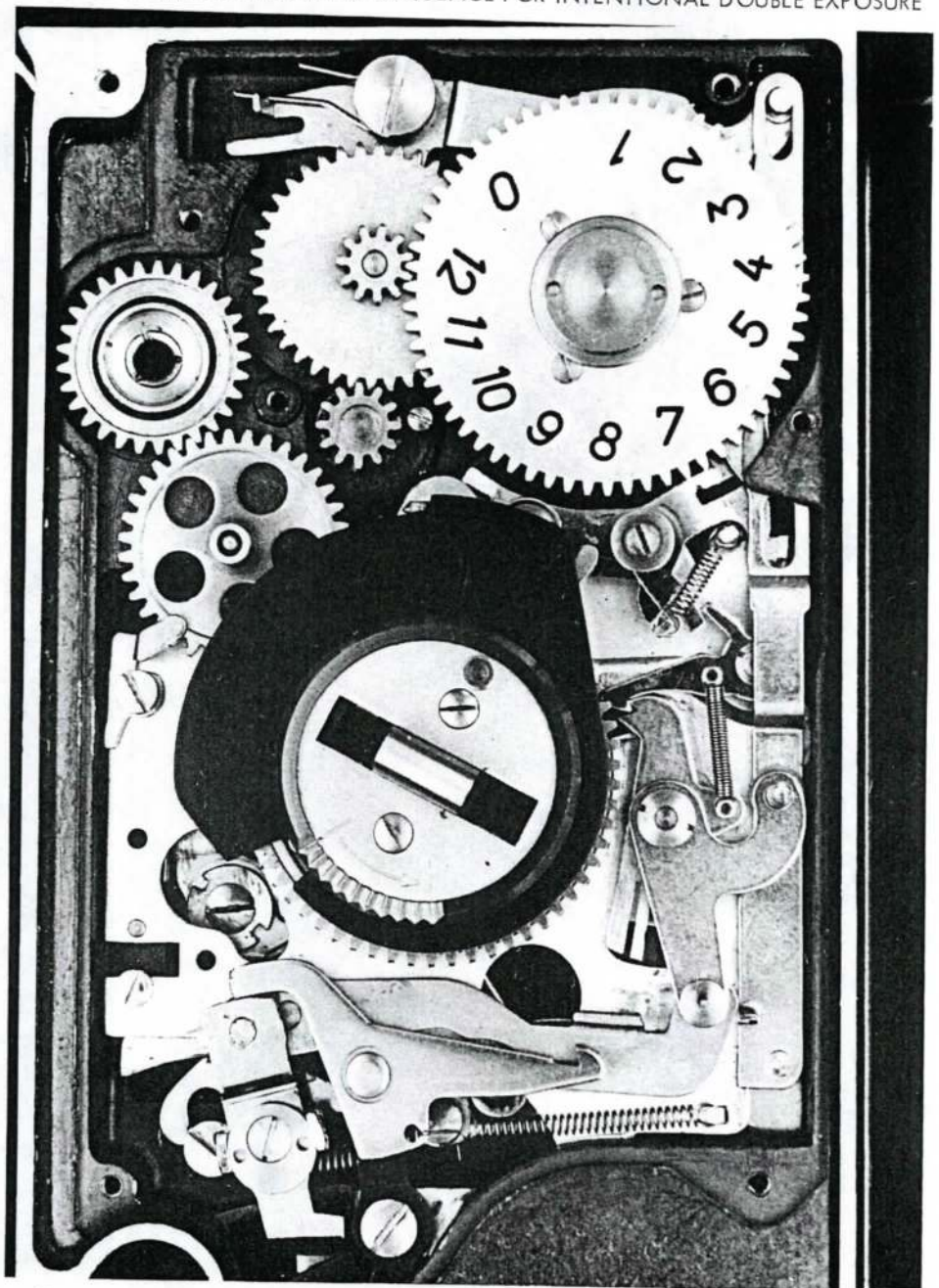
ADJUSTMENT: The detent pawl must be engaged and held by the detent pawl latch immediately prior to the shutter release. Adjustment is by forming the lower, slotted end of the detent pawl.

AFTER EXPOSING THE LAST FILM FRAME (12), THE FILM METERING IDLER GEAR RIDES IN THE CUTOUT SECTION OF THE COUNTER GEAR. YOU CAN NOW WIND THE FILM ONTO THE TAKE-UP SPOOL WITHOUT TURNING THE COUNTER GEAR.



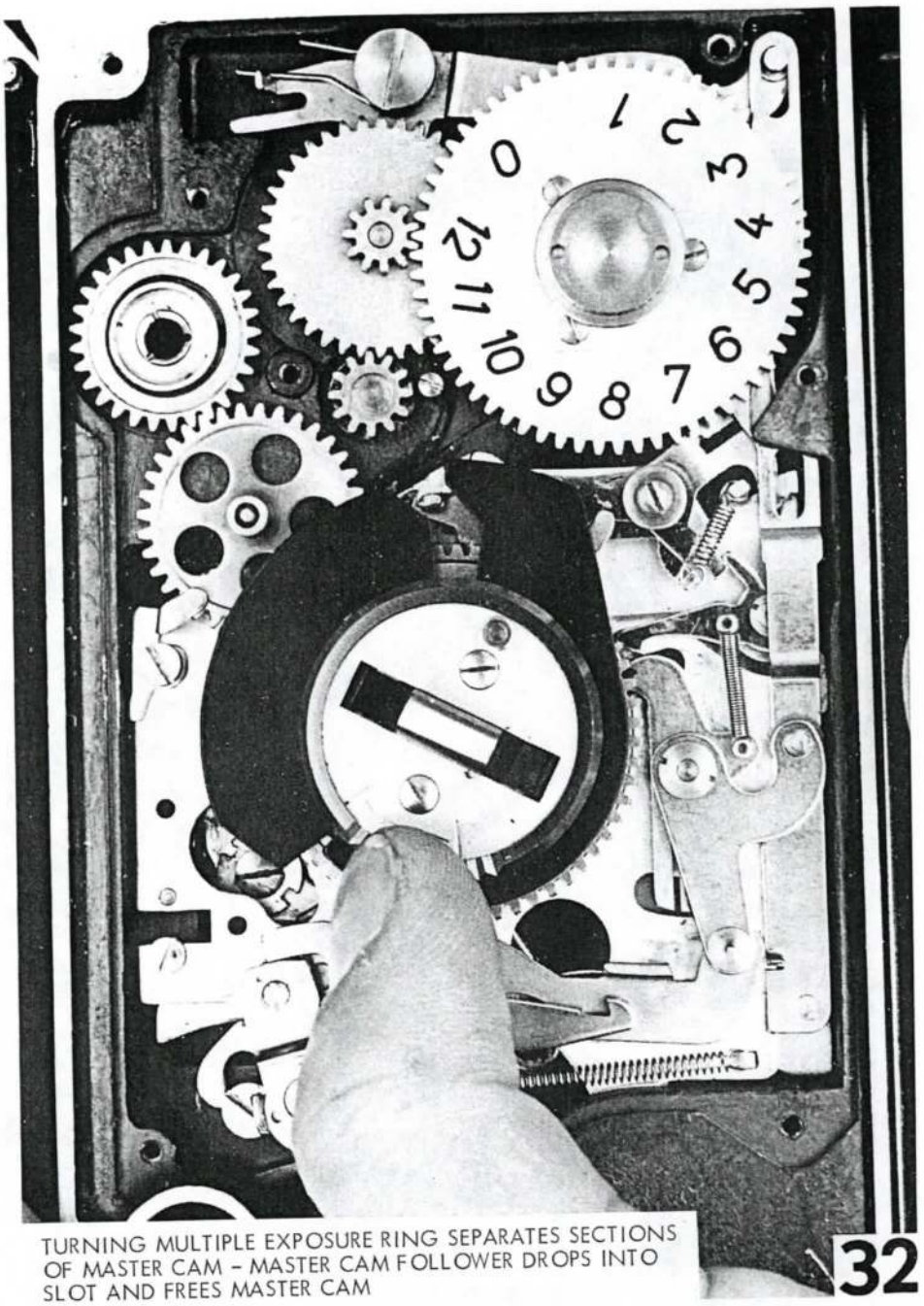
The 120/220 selector lever, when set to 24, holds the 220 control lever in the path of the film metering cam. After the 12th frame, the stop lug on the film metering cam strikes the end of the 220 control lever; that pushes the 220 control lever against the detent pawl latch, releasing the detent pawl. Now, the main wind gear is locked. Turning the 120/220 selector lever to 12 pushes down the vertical film metering idler gear link -- and the counter gear then returns to "0." When you depress the release button to free the main wind gear, you can advance the wind crank for another 12 exposures.

FIGURES 31 THROUGH 33 SHOW SEQUENCE FOR INTENTIONAL DOUBLE EXPOSURE



– SHUTTER HAS BEEN COCKED AND RELEASED FOR FIRST EXPOSURE –
TURNING WIND CRANK CLOCKWISE WILL ADVANCE FILM

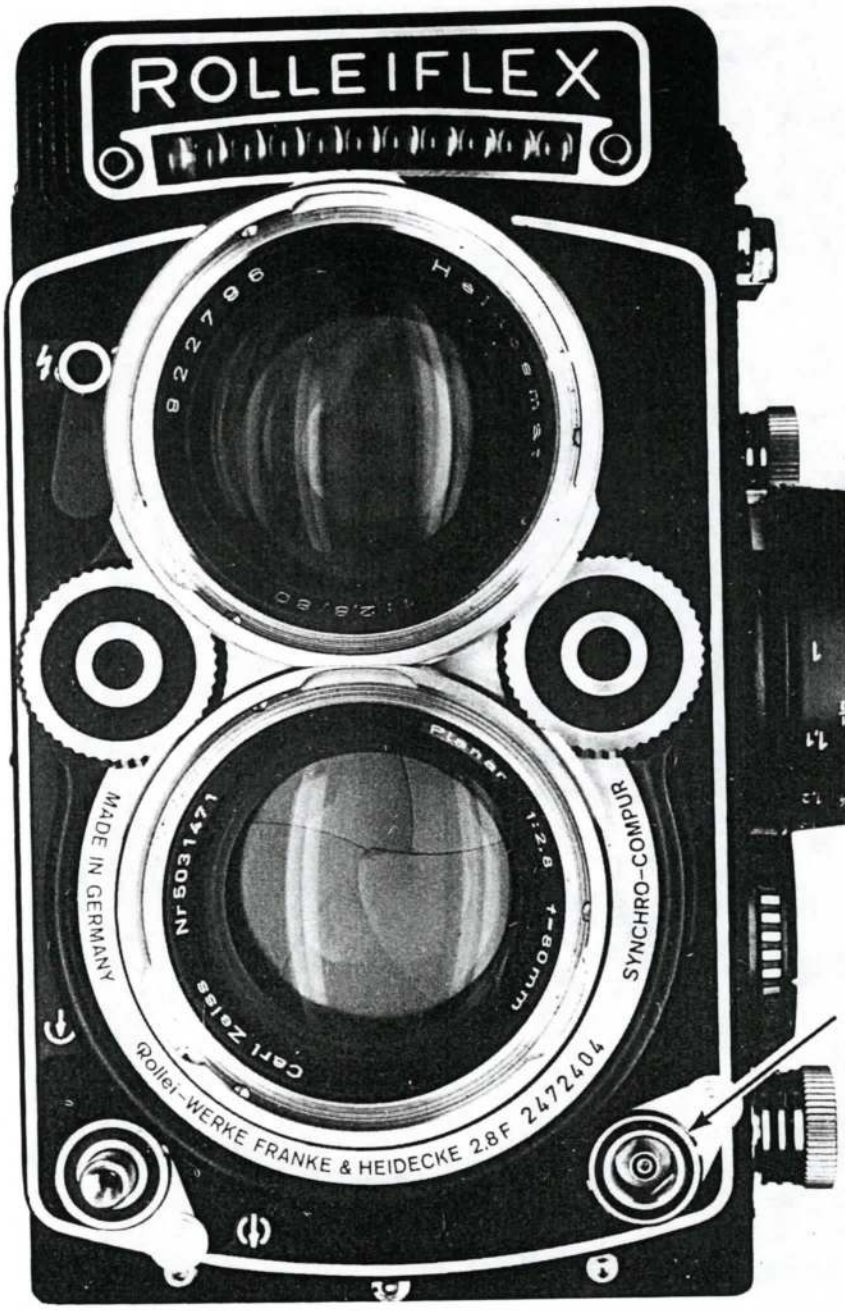
31



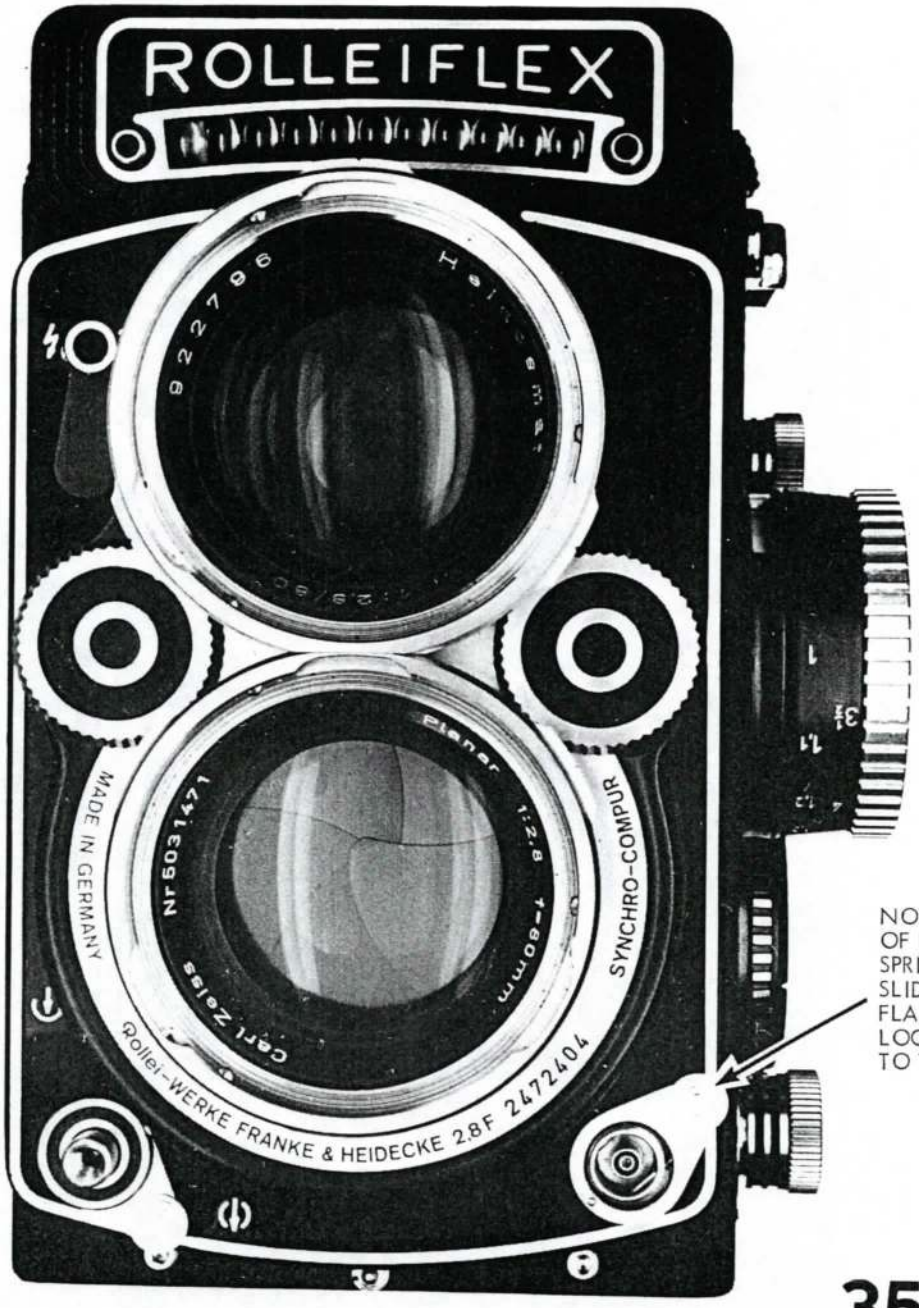
TURNING MULTIPLE EXPOSURE RING SEPARATES SECTIONS OF MASTER CAM – MASTER CAM FOLLOWER DROPS INTO SLOT AND FREES MASTER CAM

YOU CAN NOW TURN WIND CRANK COUNTERCLOCKWISE TO COCK SHUTTER WITHOUT ADVANCING FILM

33



UNSCREW RETAINING RING OVER FLASH CORD LOCK LEVER



NOTE POSITIONS OF LOCKING SPRINGS - SLIDE OUT FLASH CORD LOCK LEVER TO THE RIGHT

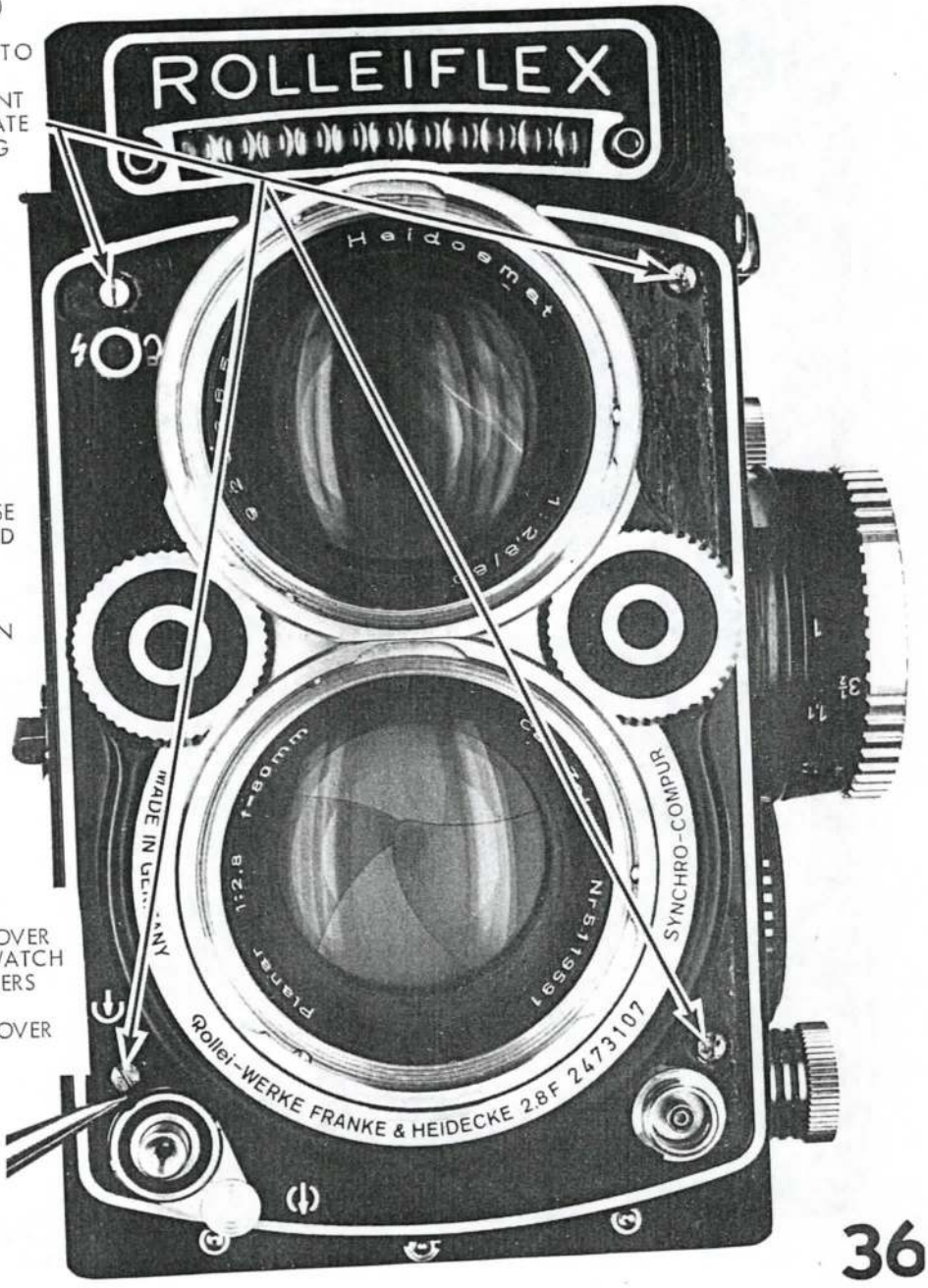
35

1. REMOVE (OR PEEL BACK) LEATHER SECTIONS TO EXPOSE FOUR FRONT COVER PLATE RETAINING SCREWS

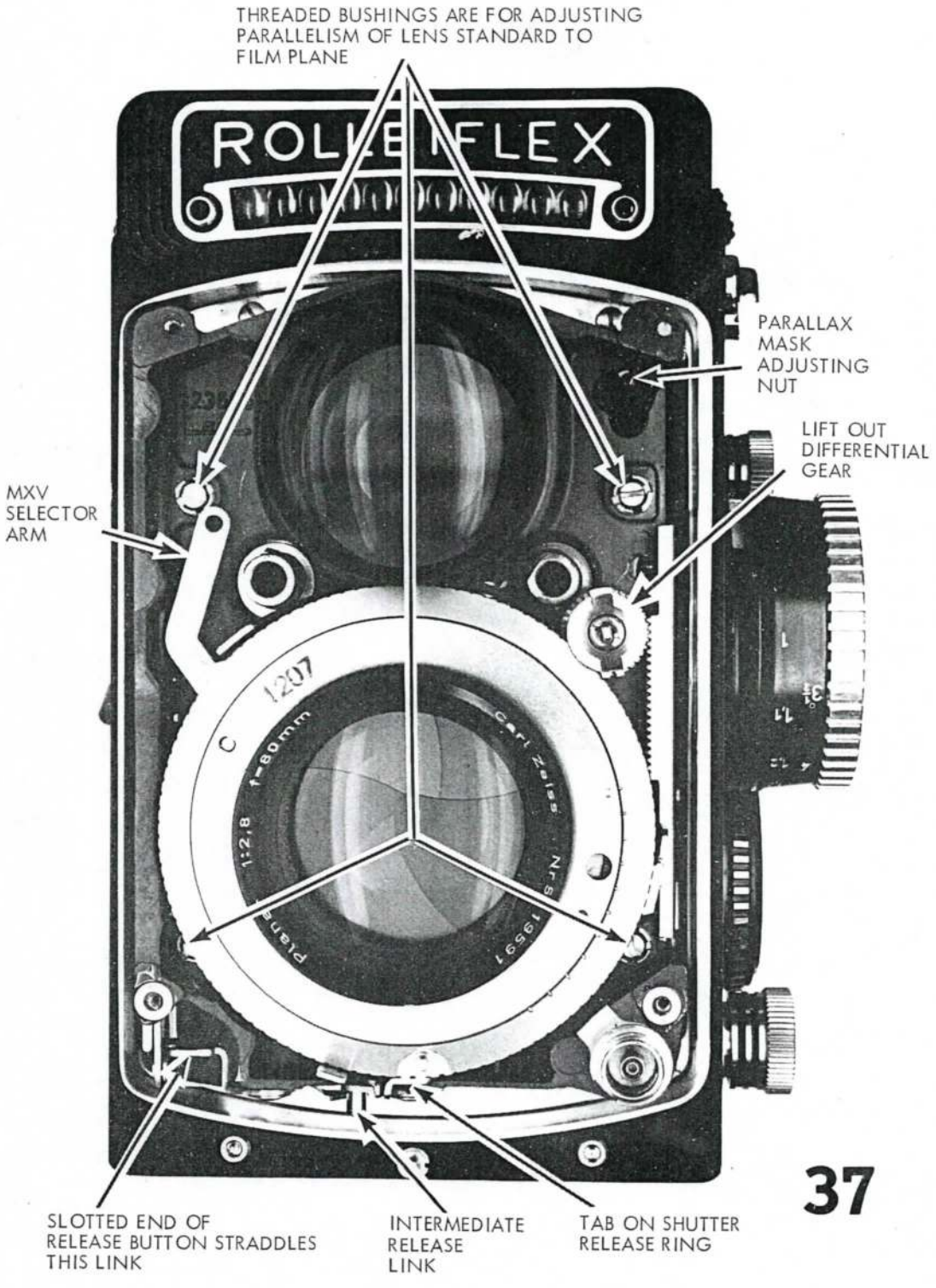
2. REMOVE SCREWS

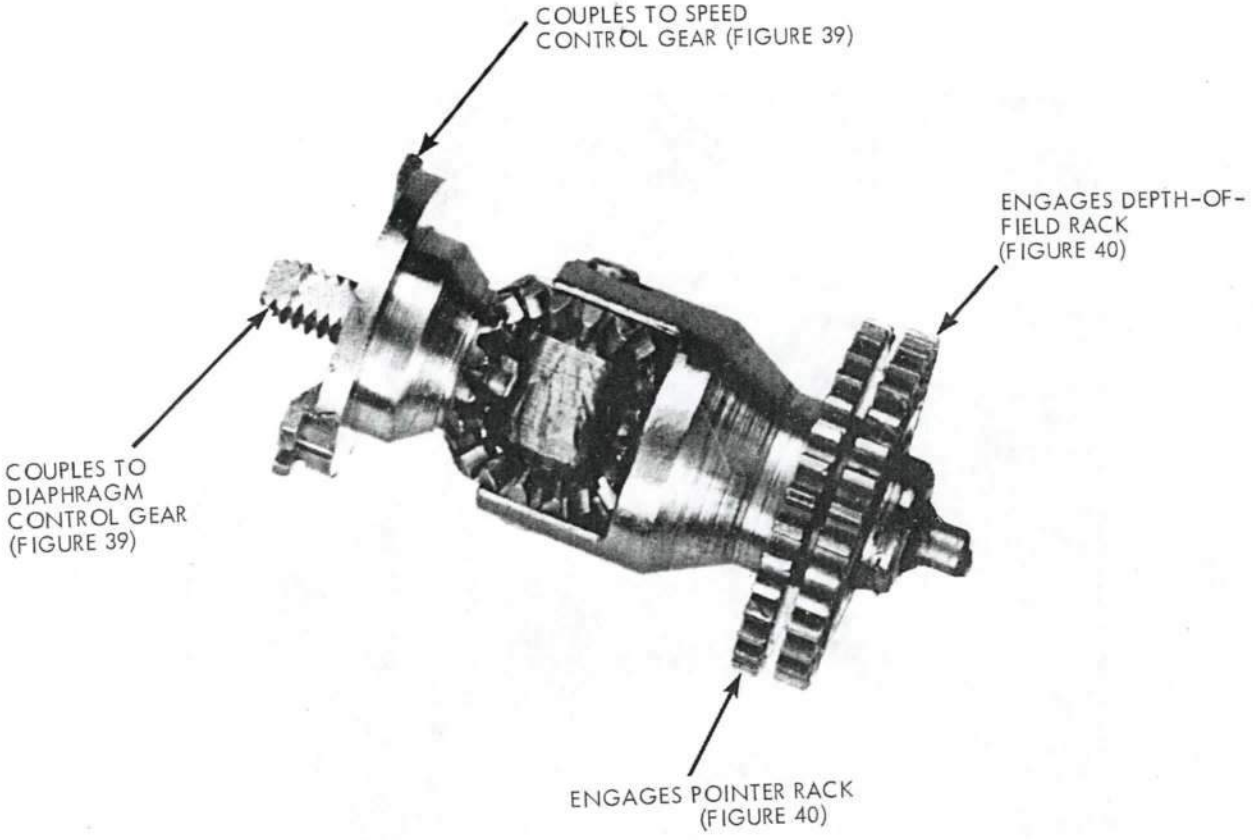
3. TURN RELEASE BUTTON LOCK CLOCKWISE TO LOCKED POSITION TO HOLD RELEASE BUTTON IN FRONT COVER PLATE

4. LIFT OFF FRONT COVER PLATE - WATCH FOR SPACERS UNDER FRONT COVER PLATE

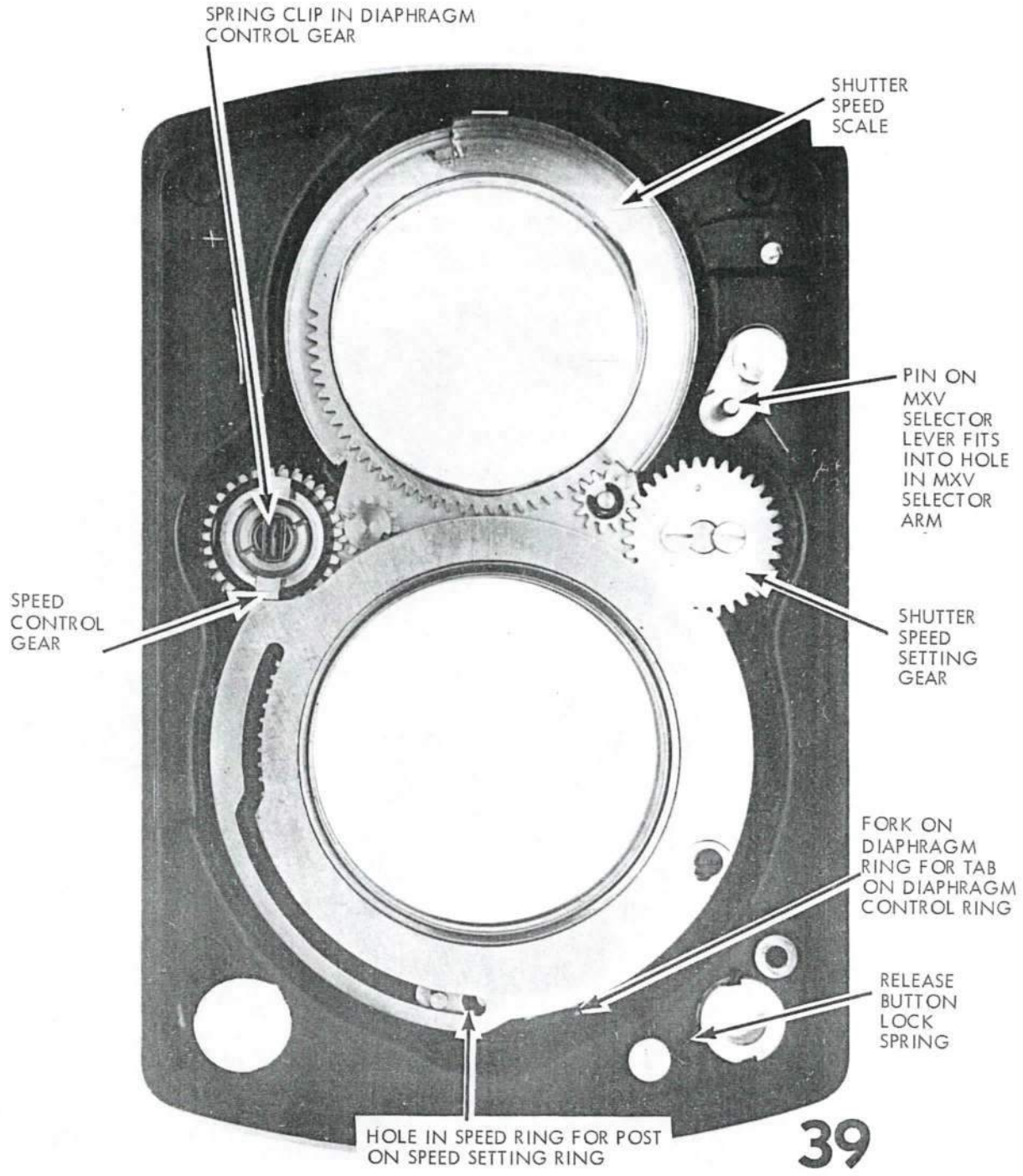


CAUTION: CABLE RELEASE PIN THROUGH CENTER OF RELEASE BUTTON MAY FALL OUT AS YOU REMOVE FRONT COVER PLATE


THREADED BUSHINGS ARE FOR ADJUSTING PARALLELISM OF LENS STANDARD TO FILM PLANE
PARALLAX MASK ADJUSTING NUT
LIFT OUT DIFFERENTIAL GEAR
MXV SELECTOR ARM
SLOTTED END OF RELEASE BUTTON STRADDLES THIS LINK
INTERMEDIATE RELEASE LINK
TAB ON SHUTTER RELEASE RING

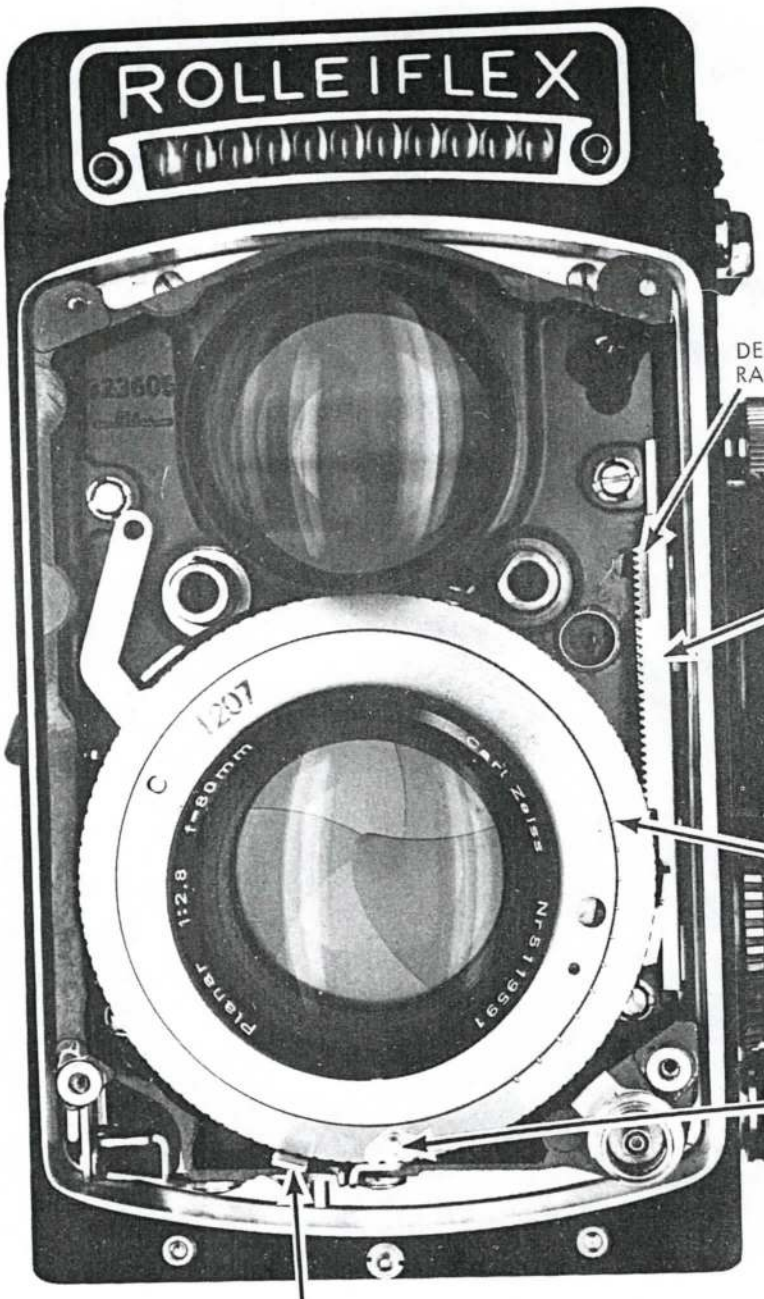

COUPLES TO SPEED CONTROL GEAR (FIGURE 39)
ENGAGES DEPTH-OF-FIELD RACK (FIGURE 40)
COUPLES TO DIAPHRAGM CONTROL GEAR (FIGURE 39)
ENGAGES POINTER RACK (FIGURE 40)

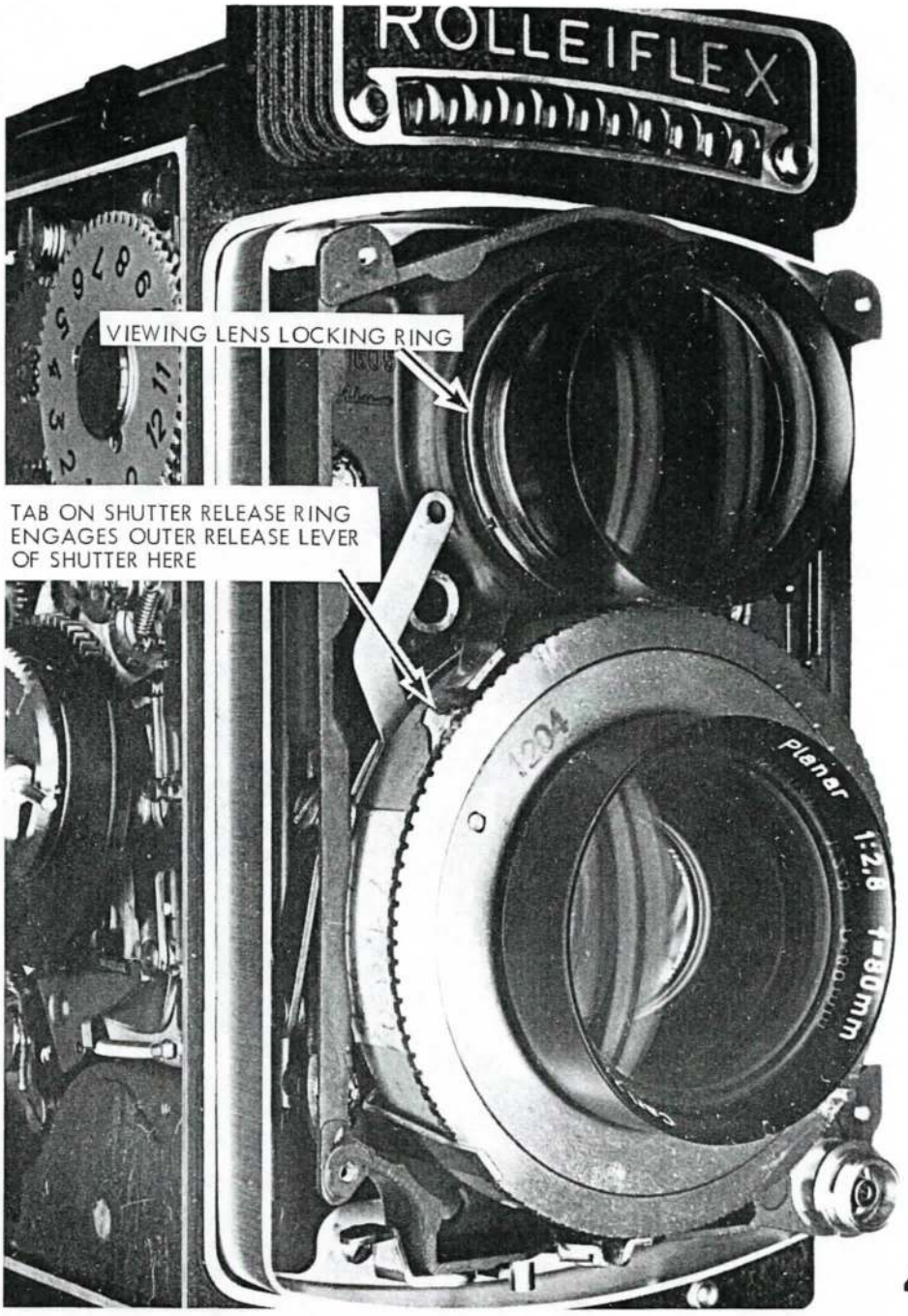
DIFFERENTIAL GEAR


SPRING CLIP IN DIAPHRAGM CONTROL GEAR
SHUTTER SPEED SCALE
PIN ON MXV SELECTOR LEVER FITS INTO HOLE IN MXV SELECTOR ARM
SPEED CONTROL GEAR
SHUTTER SPEED SETTING GEAR
FORK ON DIAPHRAGM RING FOR TAB ON DIAPHRAGM CONTROL RING
RELEASE BUTTON LOCK SPRING
HOLE IN SPEED RING FOR POST ON SPEED SETTING RING
39

INSIDE OF FRONT COVER PLATE

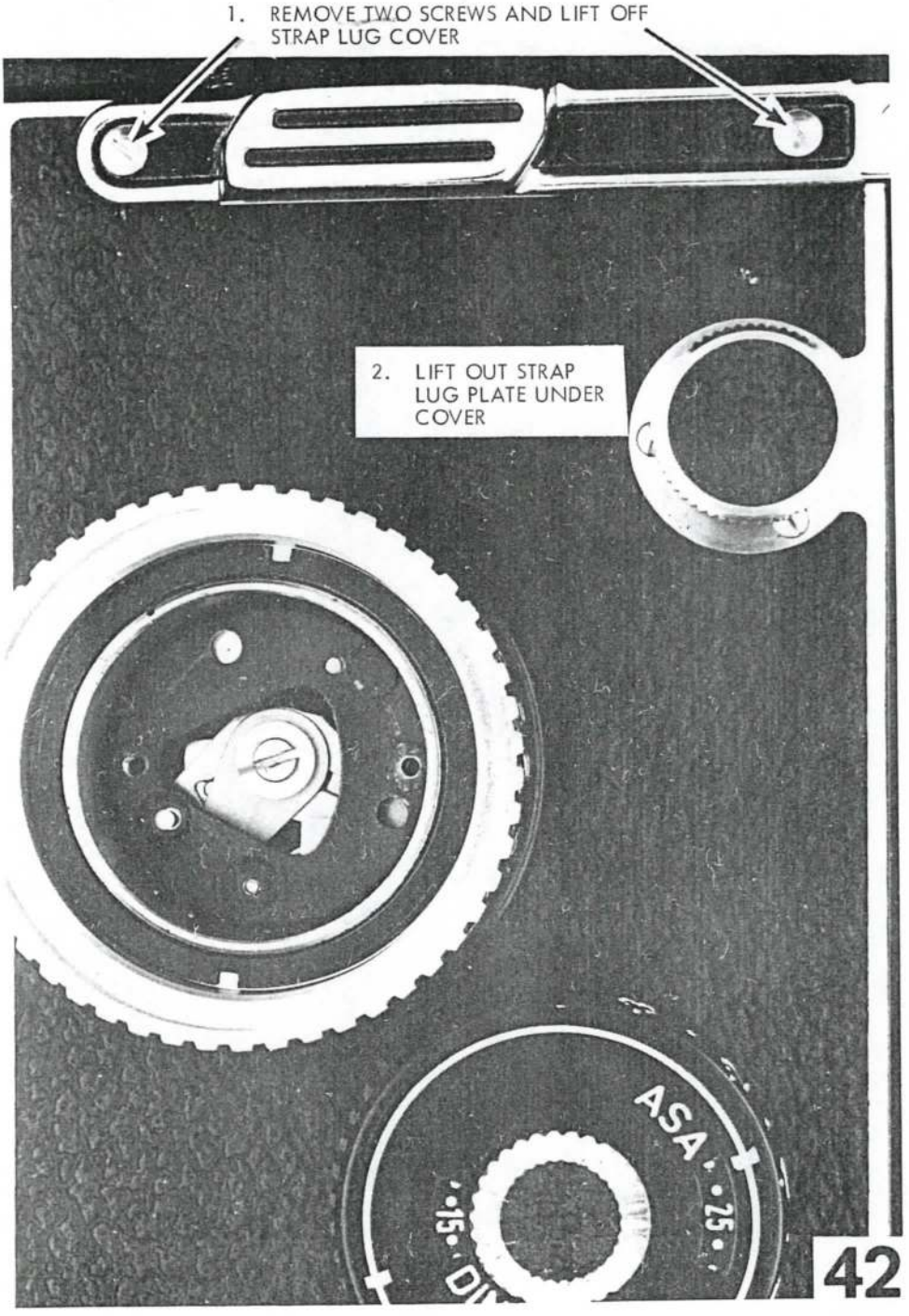
INSTRUCTIONS FOR REPLACING FRONT COVER PLATE ARE GIVEN IN "ROLLEIFLEX 2.8F - 3.5F" SUPPLEMENT SHEET

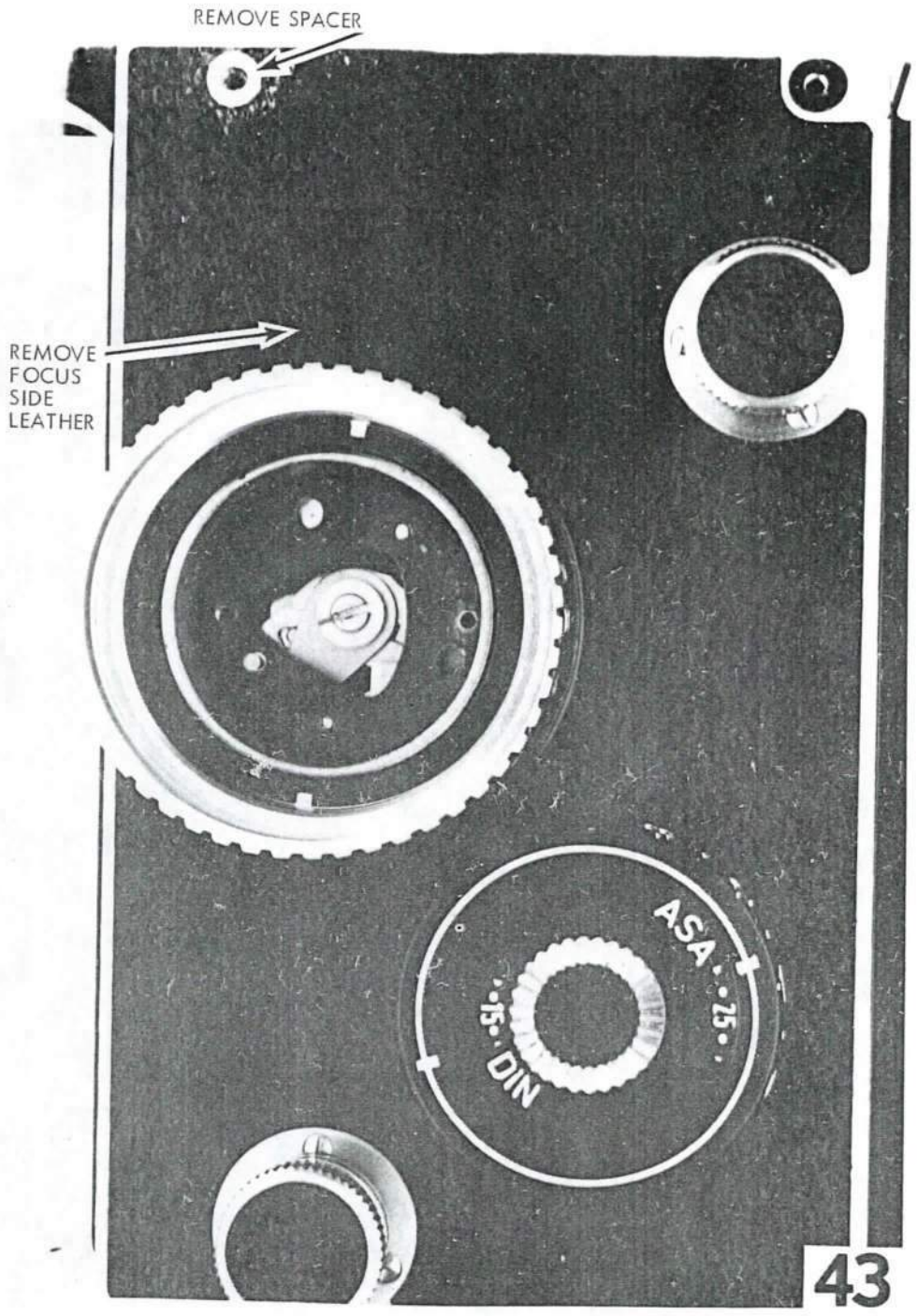




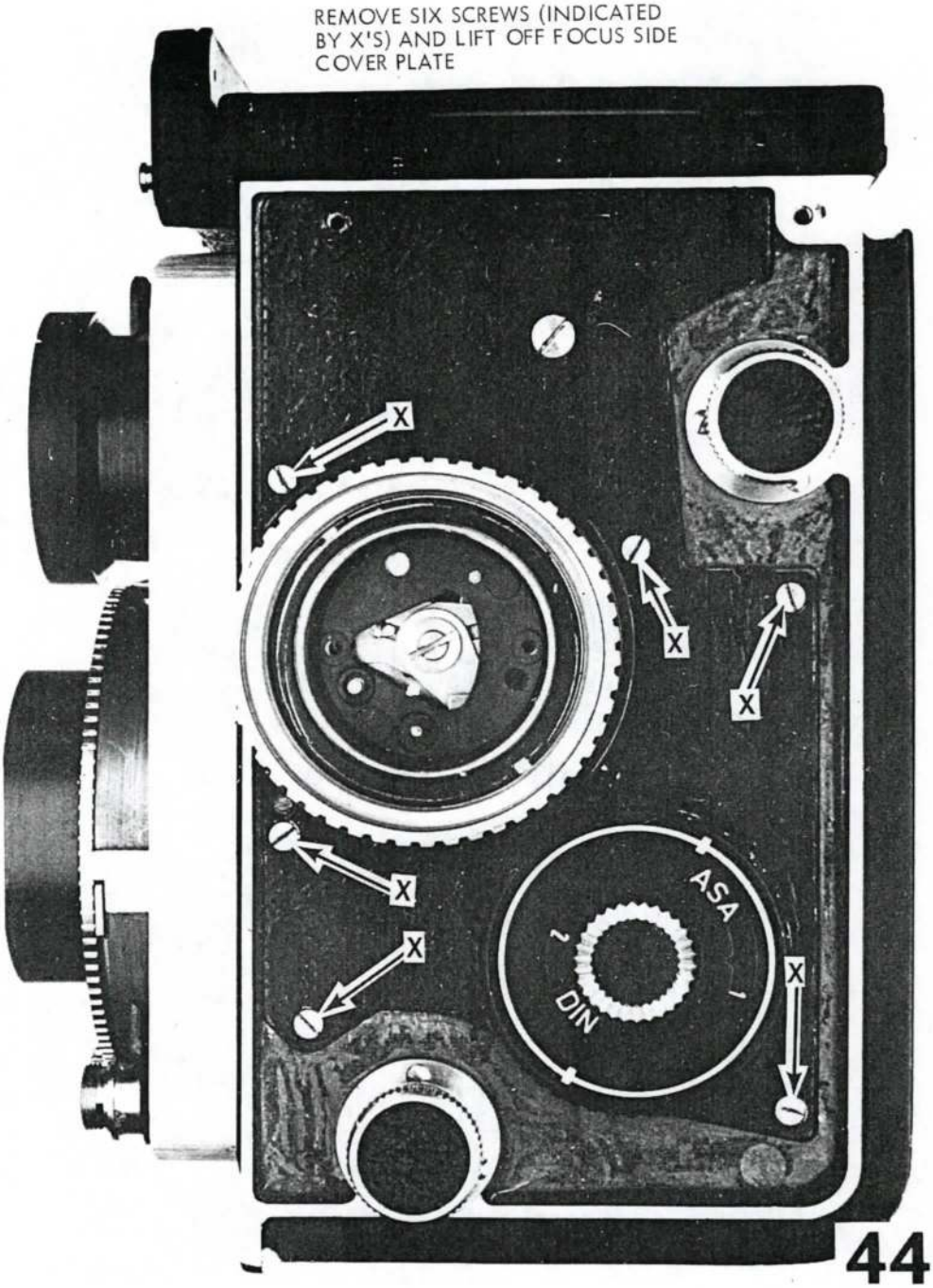
41

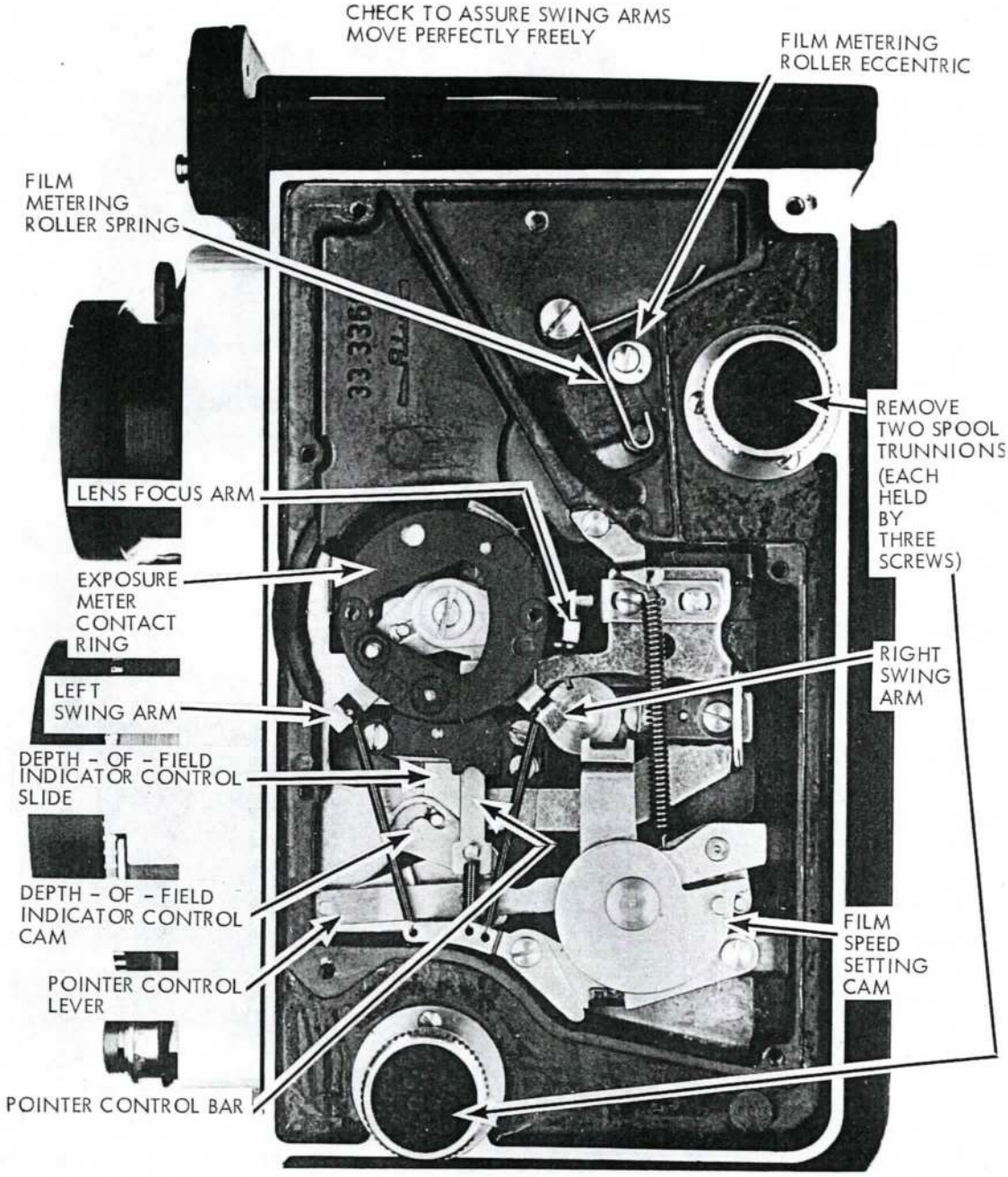
ADJUSTMENT: After adjusting the taking lens at infinity (see figure 6), check the position of the viewing lens. Screw the viewing lens in or out to the best infinity position -- then, turn down the locking ring (clockwise) to hold the adjustment. The locking ring is normally sealed with lacquer.


1. REMOVE TWO SCREWS AND LIFT OFF STRAP LUG COVER
2. LIFT OUT STRAP LUG PLATE UNDER COVER
ASA
25
15
42


REMOVE SPACER
REMOVE FOCUS SIDE LEATHER
ASA
25
15
DIN
43

REMOVE SIX SCREWS (INDICATED BY X'S) AND LIFT OFF FOCUS SIDE COVER PLATE

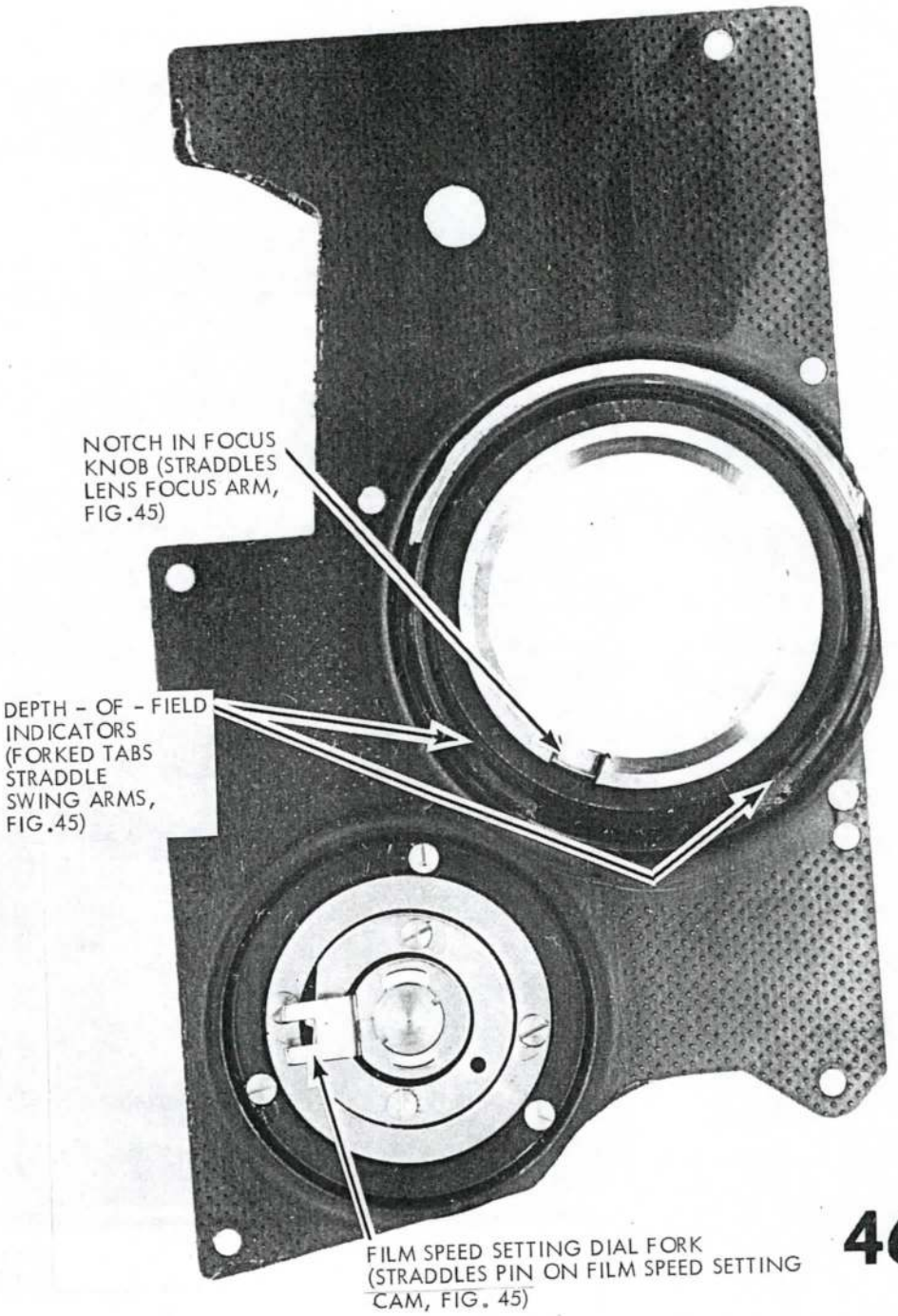



CHECK TO ASSURE SWING ARMS MOVE PERFECTLY FREELY
FILM METERING ROLLER ECCENTRIC
FILM METERING ROLLER SPRING
33.336
REMOVE TWO SPOOL TRUNNIONS (EACH HELD BY THREE SCREWS)
LENS FOCUS ARM
EXPOSURE METER CONTACT RING
RIGHT SWING ARM
LEFT SWING ARM
DEPTH - OF - FIELD INDICATOR CONTROL SLIDE
DEPTH - OF - FIELD INDICATOR CONTROL CAM
FILM SPEED SETTING CAM
POINTER CONTROL LEVER
POINTER CONTROL BAR

45

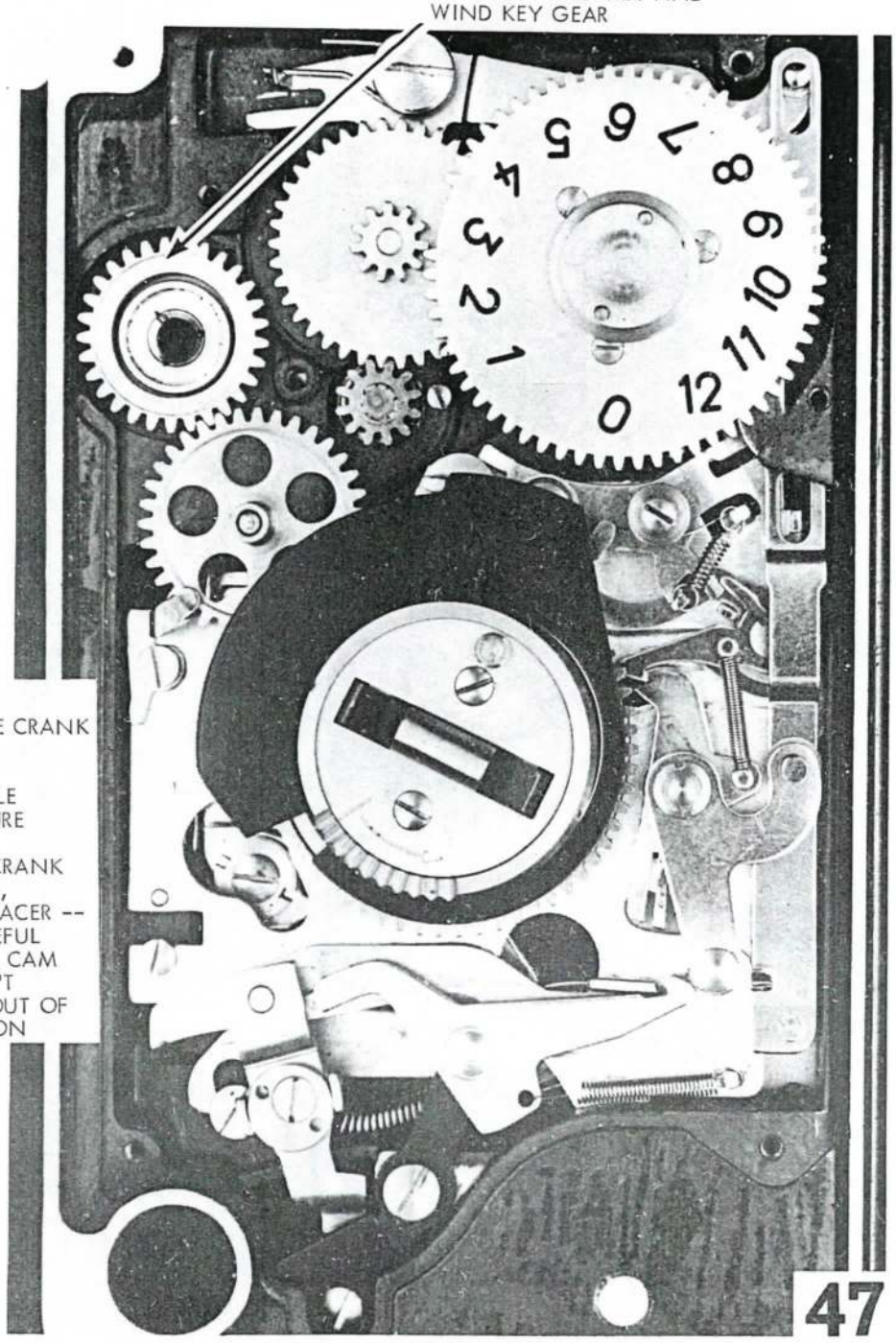
ADJUSTMENT OF FILM METERING ROLLER

Place an empty film spool in the upper (take-up) chamber. When you advance the wind crank, the film spool should not turn the film metering roller. However, if you place light finger pressure on the film spool, the film metering roller should turn as you advance the wind crank. Adjustment is by turning the eccentric, Fig. 45.

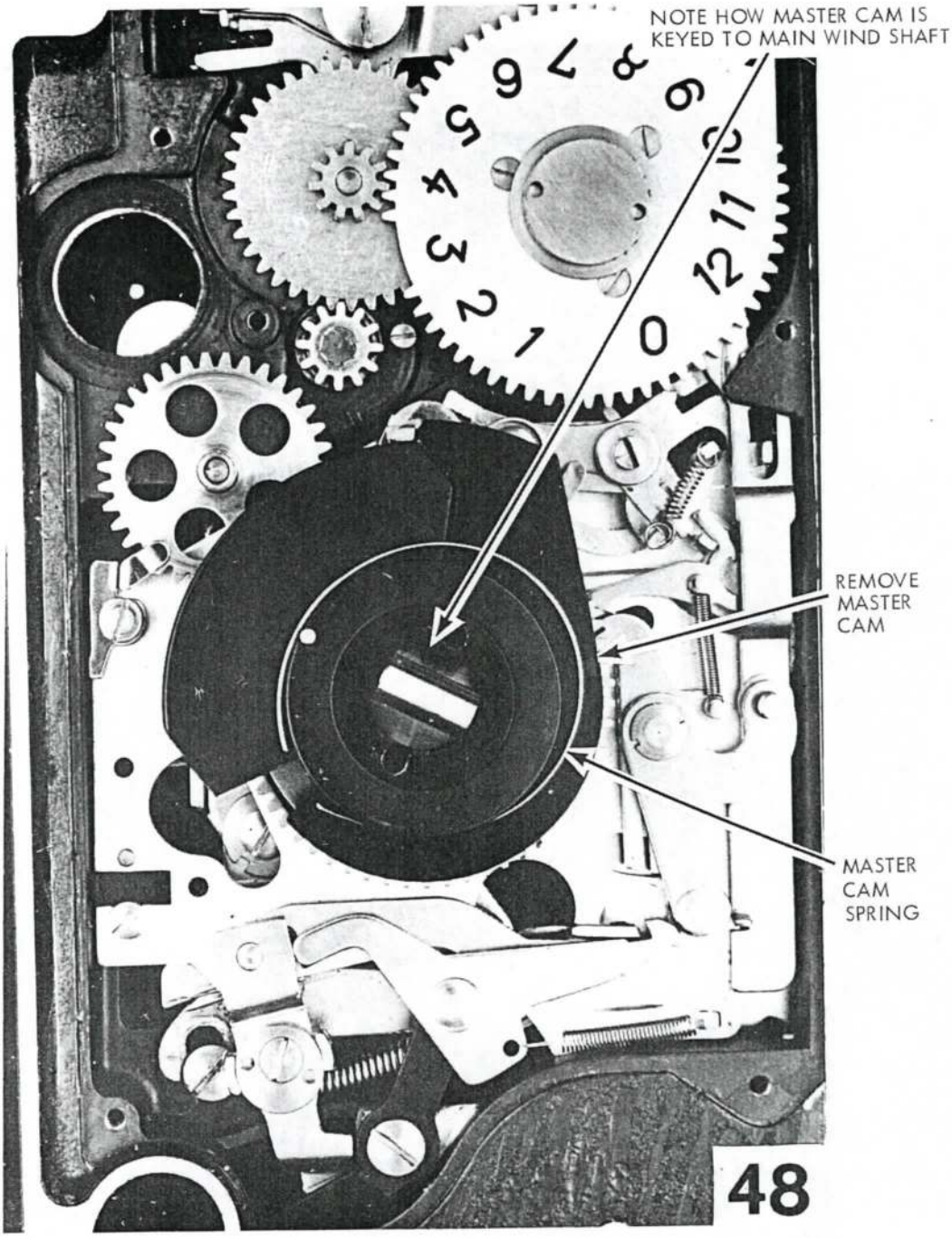

NOTCH IN FOCUS KNOB (STRADDLES LENS FOCUS ARM, FIG.45)
DEPTH - OF - FIELD INDICATORS (FORKED TABS STRADDLE SWING ARMS, FIG.45)
FILM SPEED SETTING DIAL FORK (STRADDLES PIN ON FILM SPEED SETTING CAM, FIG. 45)

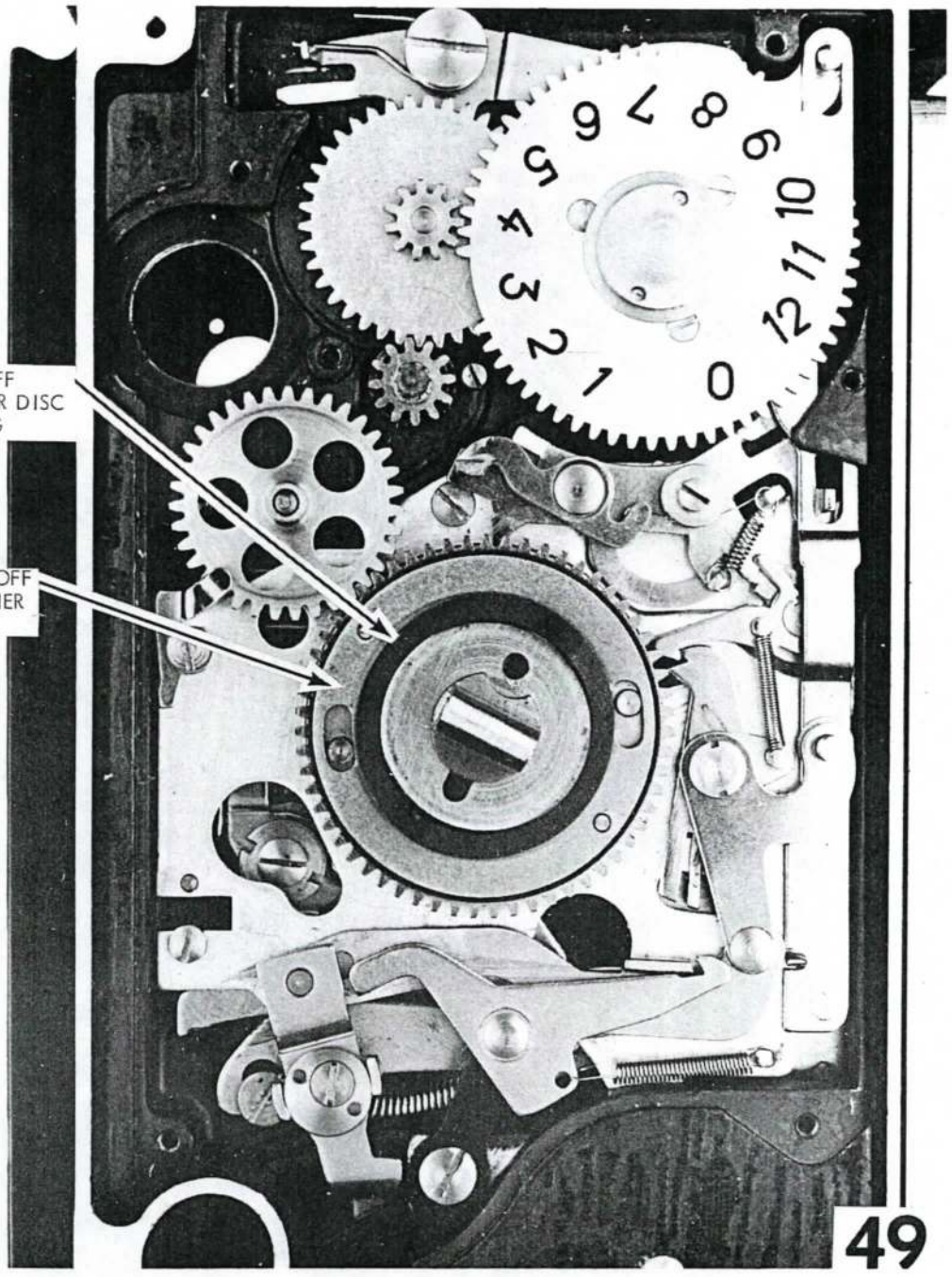
INSIDE OF FOCUS SIDE COVER PLATE

1. LIFT OUT WIND KEY AND WIND KEY GEAR

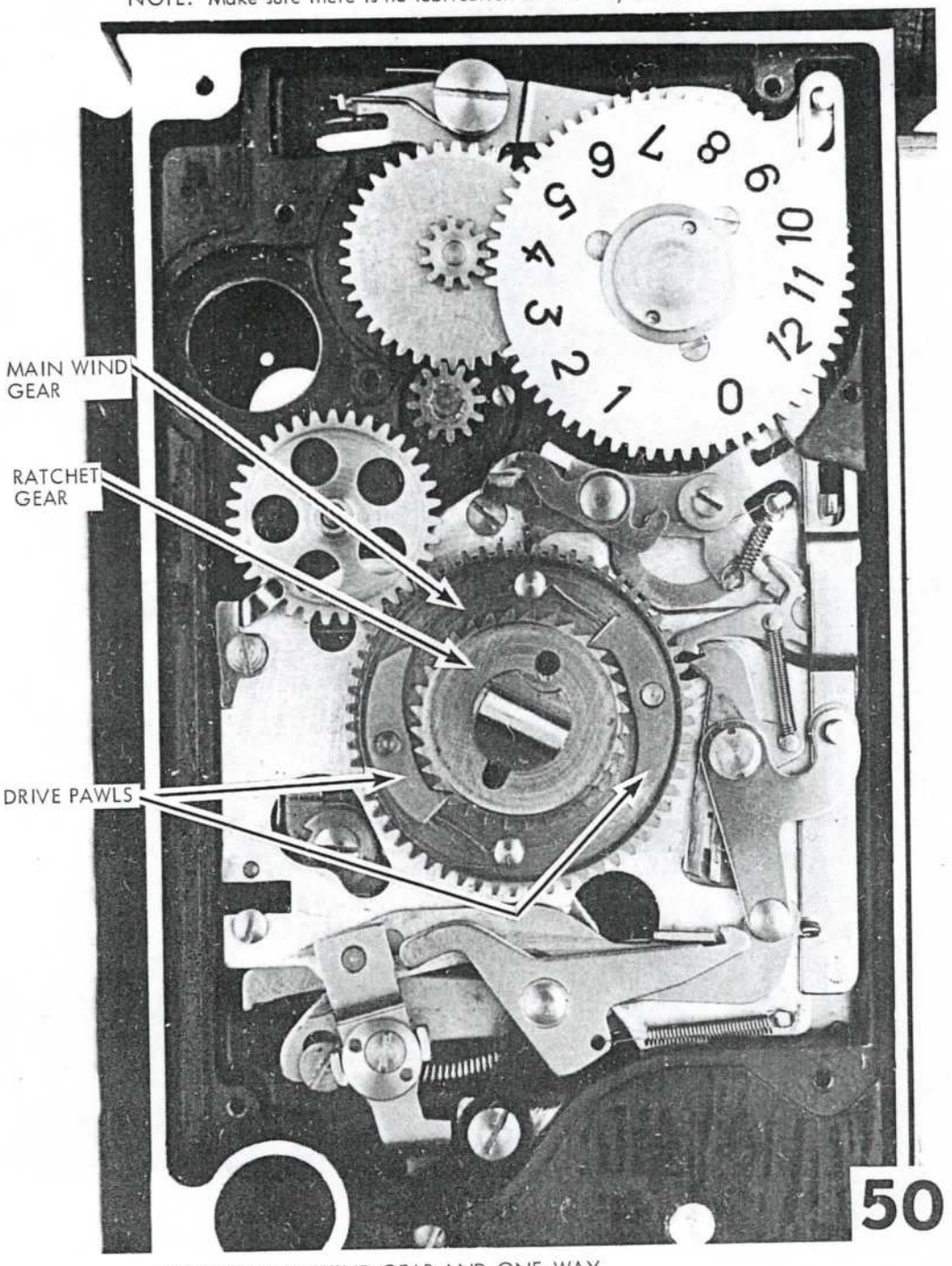


2. REMOVE CRANK COVER PLATE, MULTIPLE EXPOSURE RING, WIND CRANK SPRING, AND SPACER -- BE CAREFUL MASTER CAM DOESN'T JUMP OUT OF POSITION

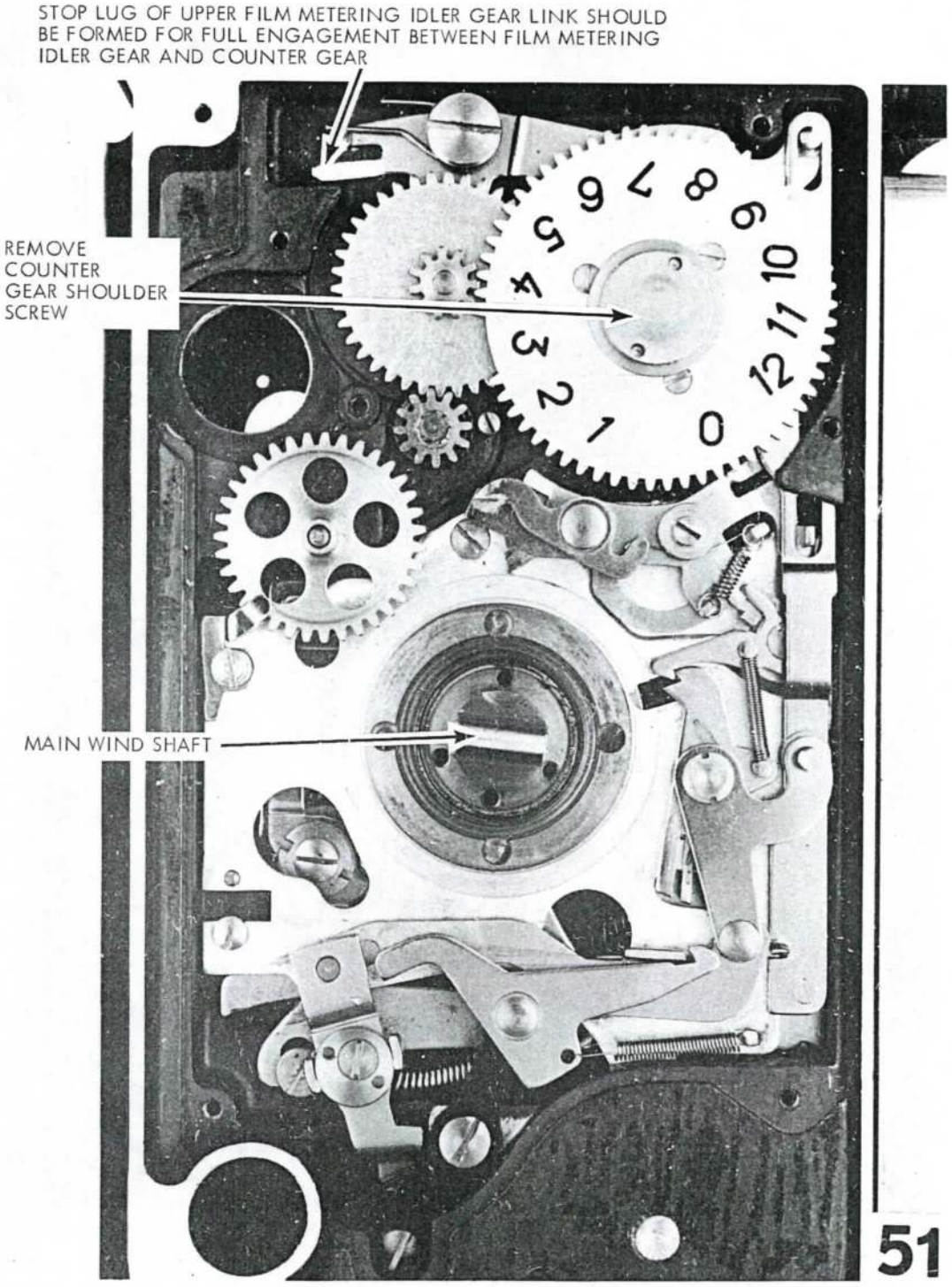

NOTE HOW MASTER CAM IS KEYED TO MAIN WIND SHAFT
REMOVE MASTER CAM
MASTER CAM SPRING
48


1. LIFT OFF CARRIER DISC SPRING
2. LIFT OFF CARRIER DISC
49

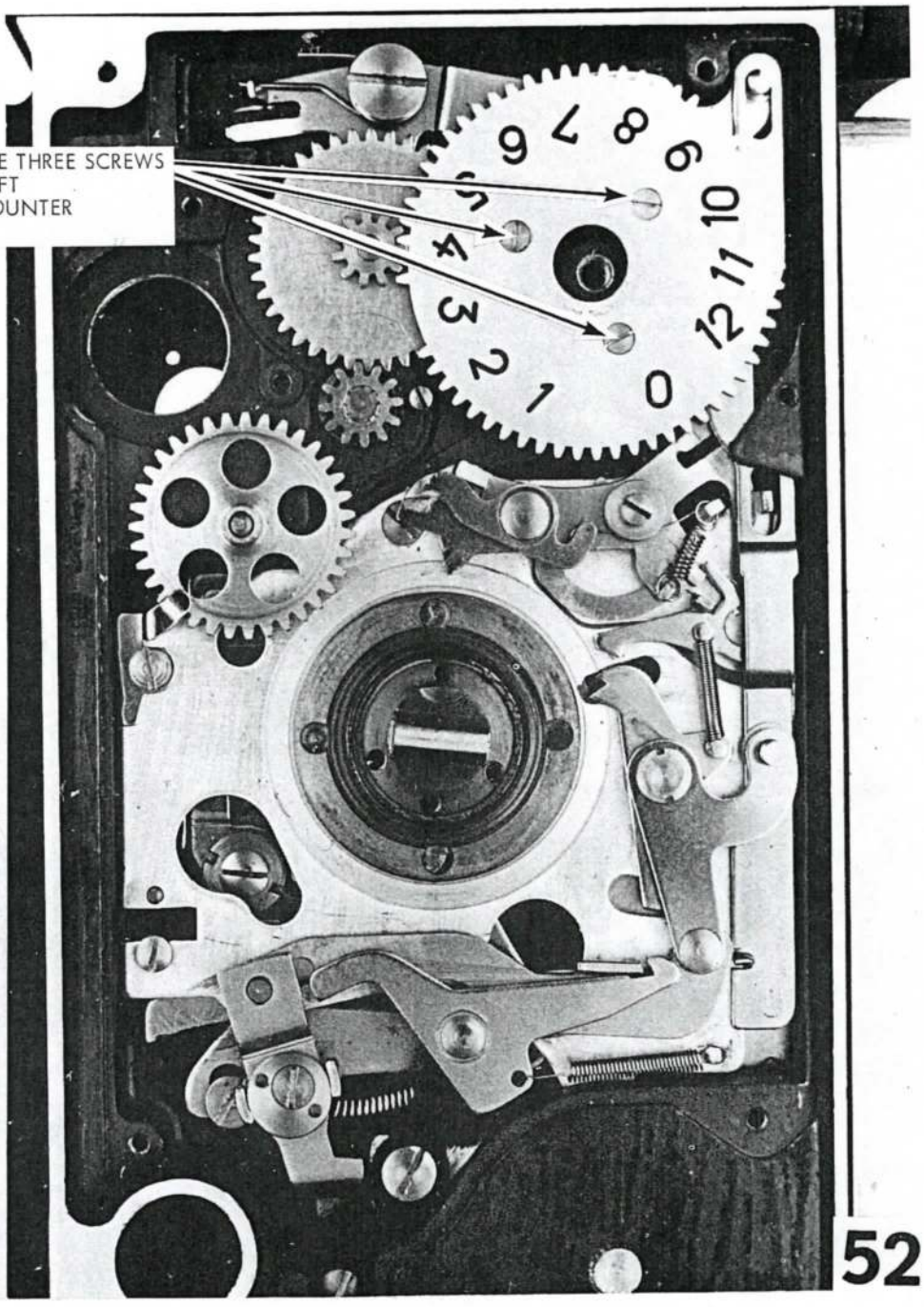
NOTE: Make sure there is no lubrication in one-way clutch.



LIFT OUT MAIN WIND GEAR AND ONE-WAY CLUTCH PARTS AS ONE ASSEMBLY

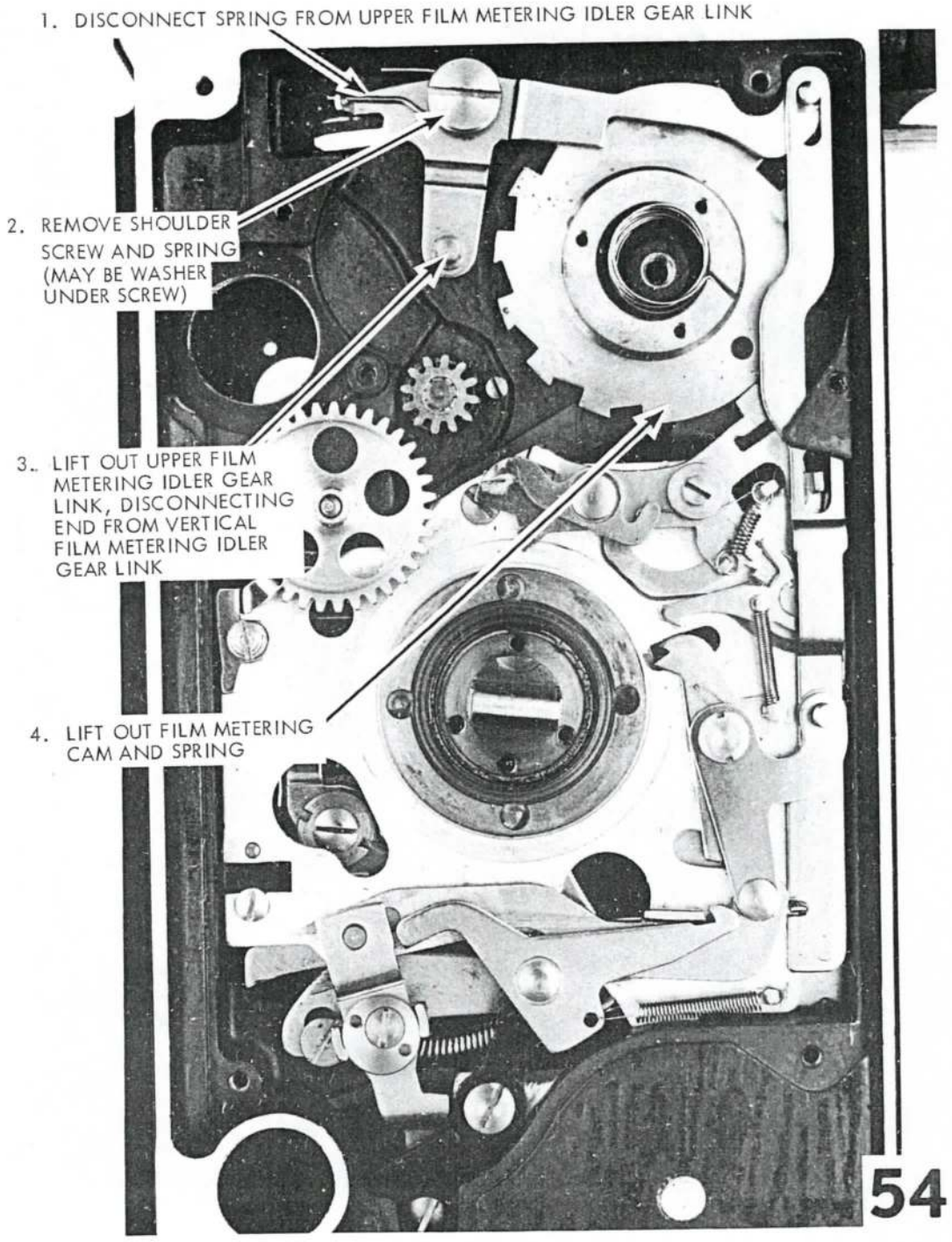

STOP LUG OF UPPER FILM METERING IDLER GEAR LINK SHOULD BE FORMED FOR FULL ENGAGEMENT BETWEEN FILM METERING IDLER GEAR AND COUNTER GEAR
REMOVE COUNTER GEAR SHOULDER SCREW
MAIN WIND SHAFT

51

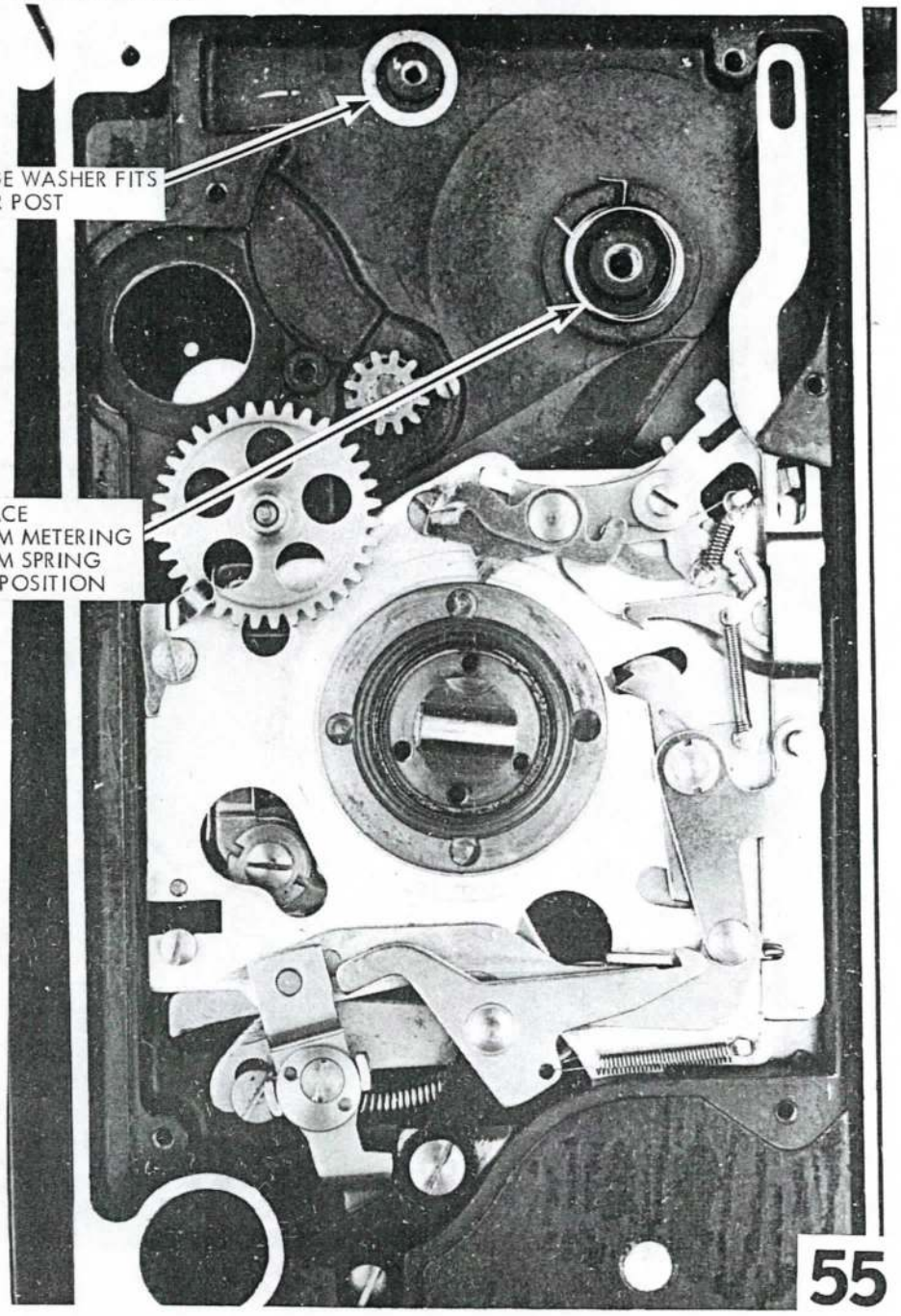


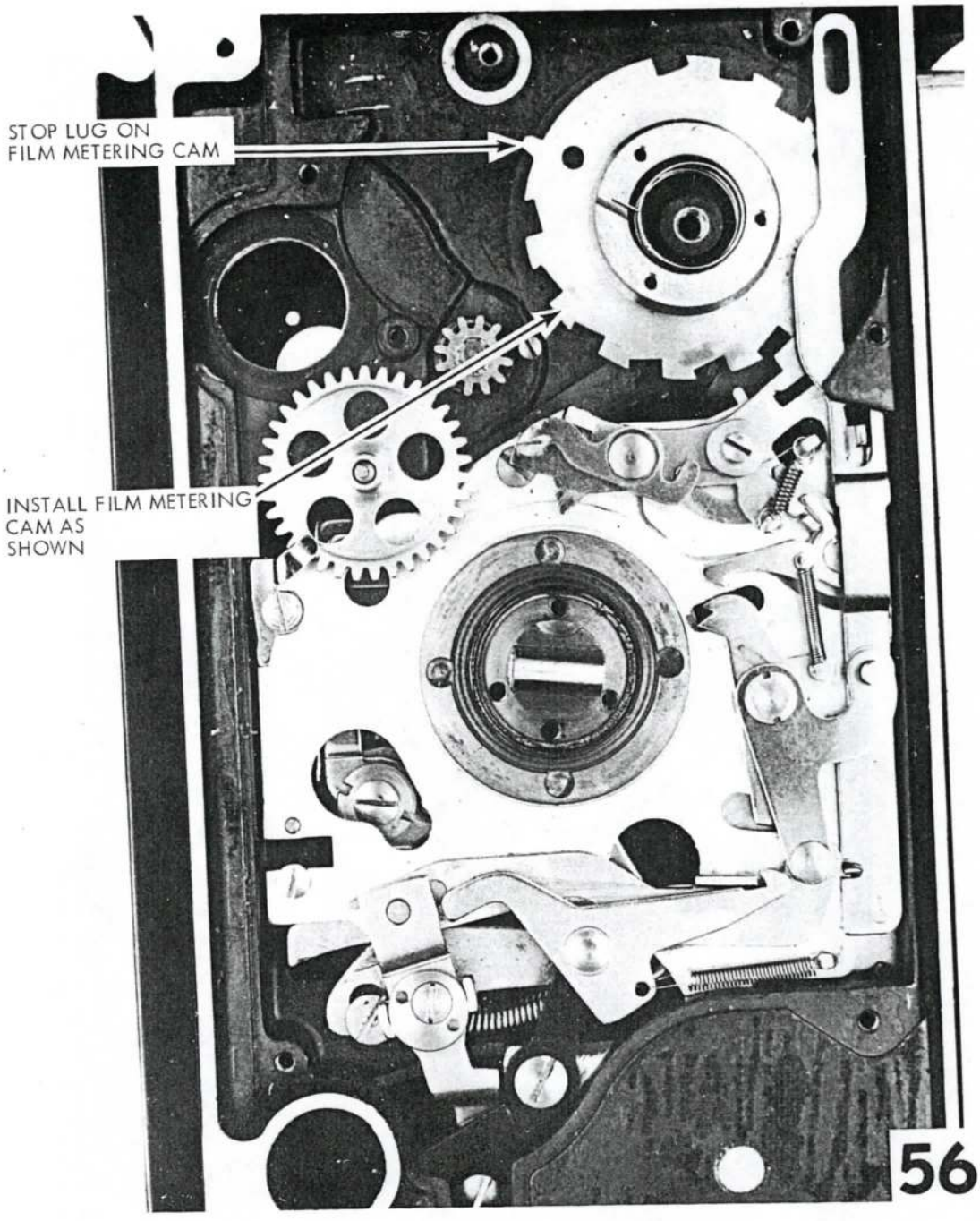
52

FILM METERING CAM SPRING
LIFT OFF FILM METERING IDLER GEAR
FILM METERING CAM

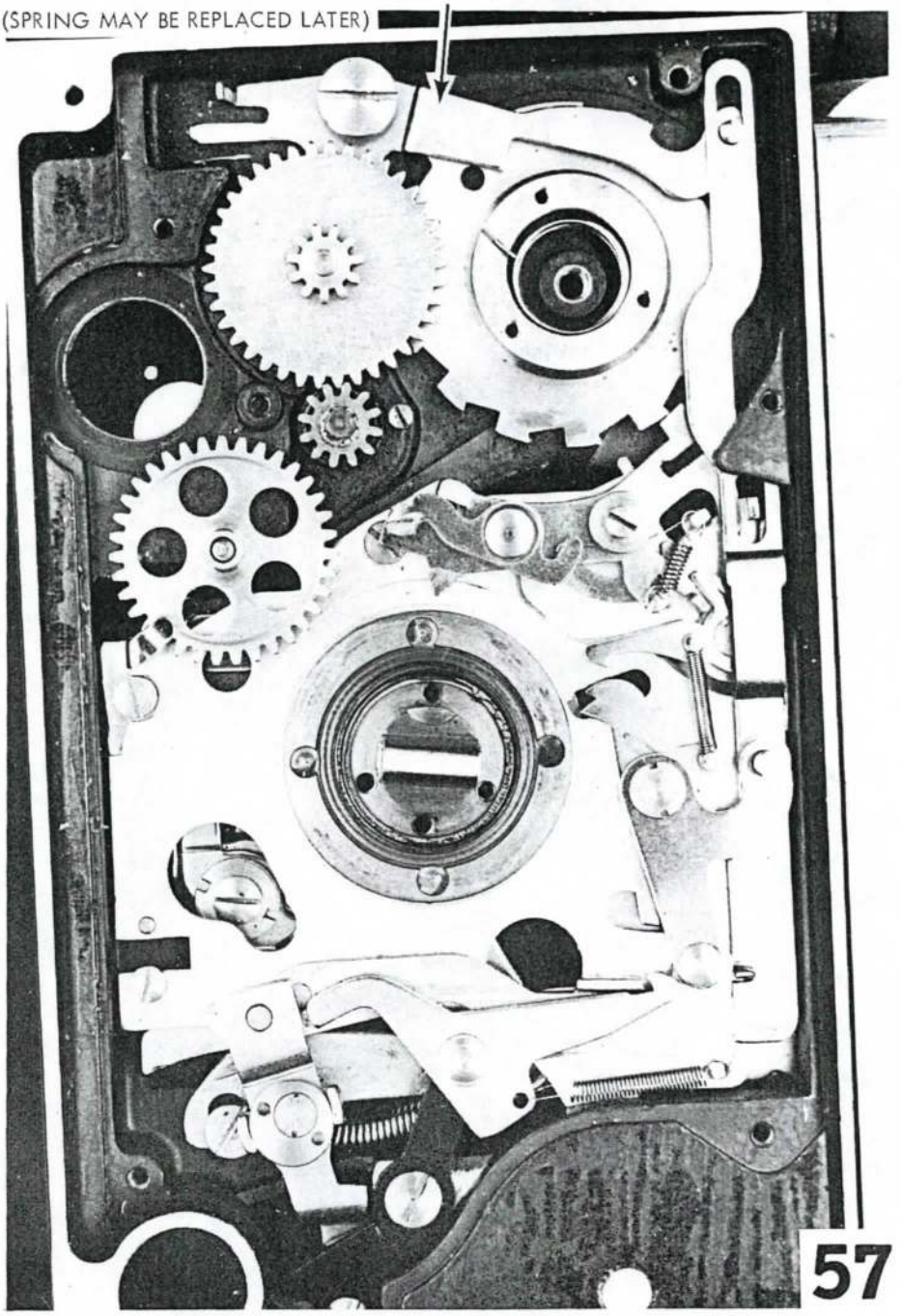

1. DISCONNECT SPRING FROM UPPER FILM METERING IDLER GEAR LINK
2. REMOVE SHOULDER SCREW AND SPRING (MAY BE WASHER UNDER SCREW)
3. LIFT OUT UPPER FILM METERING IDLER GEAR LINK, DISCONNECTING END FROM VERTICAL FILM METERING IDLER GEAR LINK
4. LIFT OUT FILM METERING CAM AND SPRING

FIGURES 55 THROUGH 59 SHOW REASSEMBLY PROCEDURE FOR COUNTER GEAR

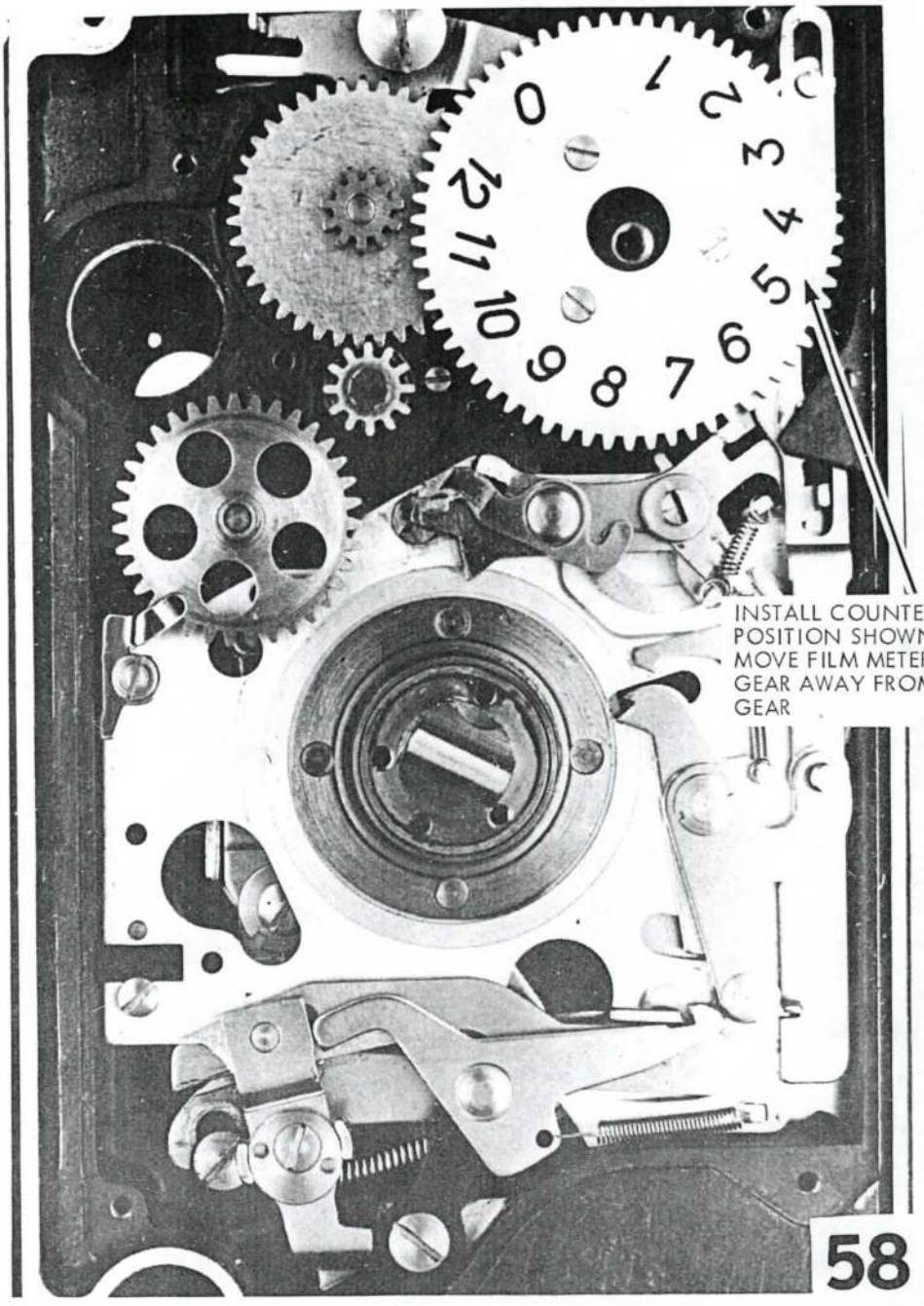


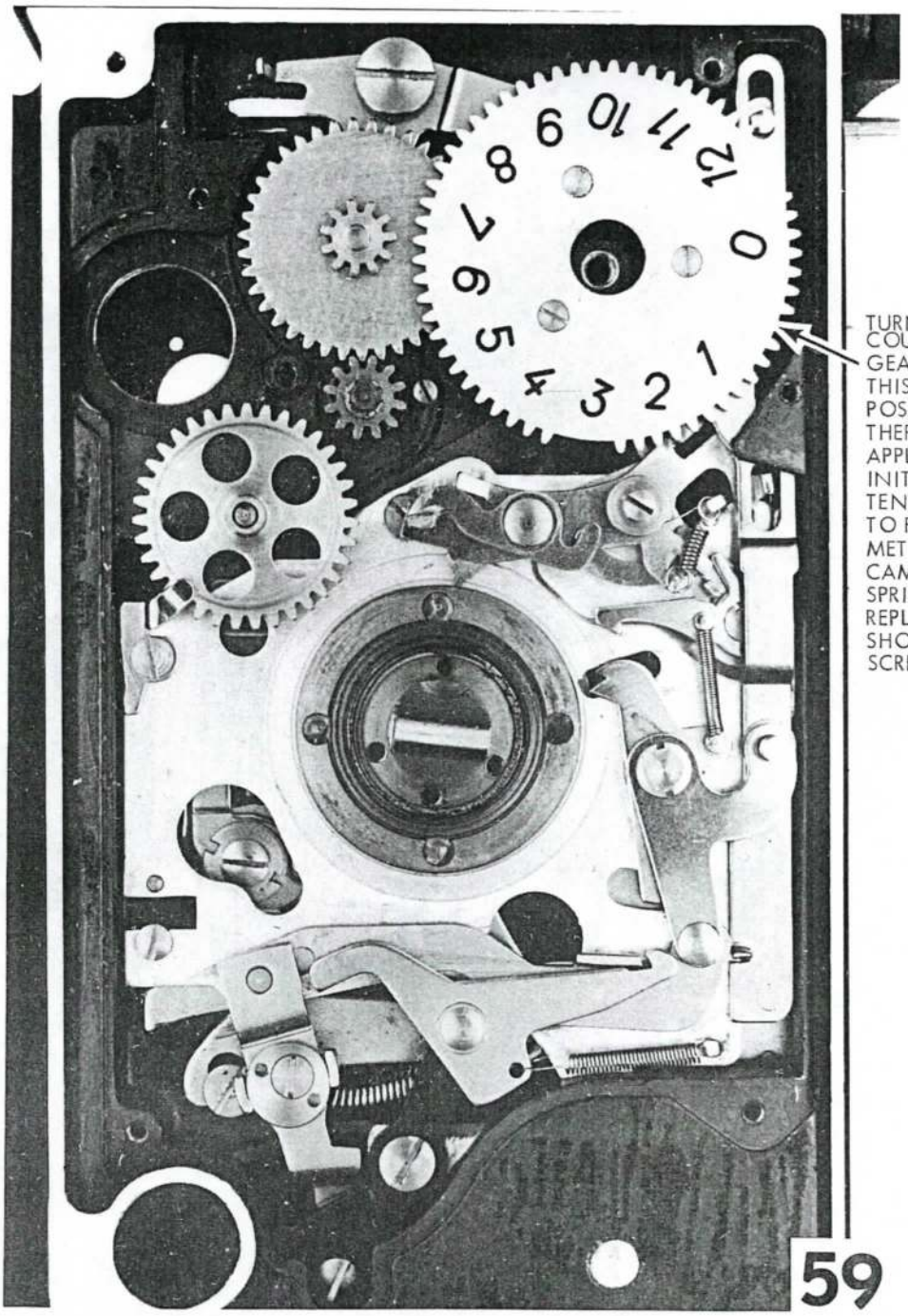

STOP LUG ON
FILM METERING CAM
INSTALL FILM METERING
CAM AS
SHOWN

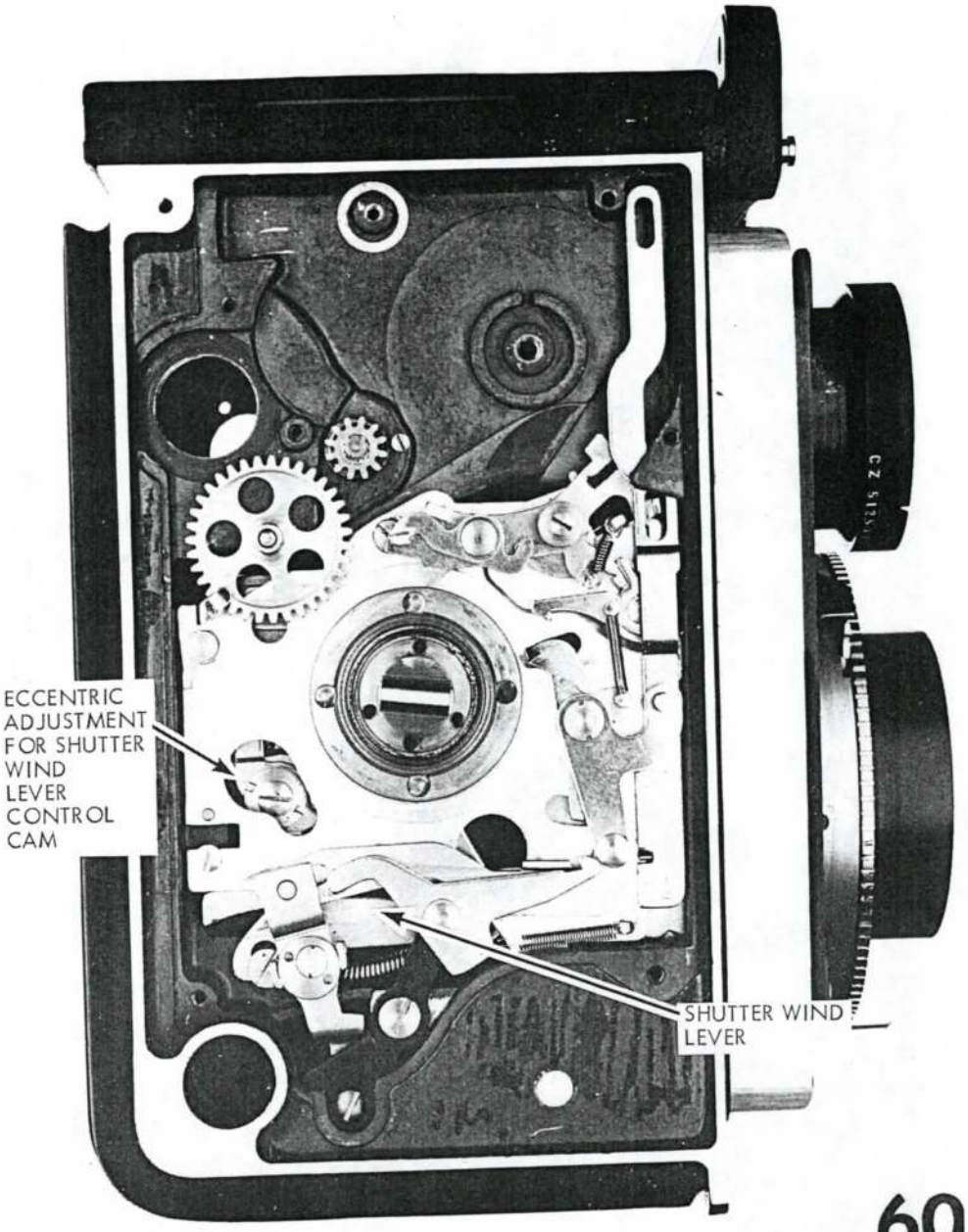
INSTALL UPPER FILM METERING IDLER GEAR LINK,
SCREW, AND FILM METERING IDLER GEAR
(SPRING MAY BE REPLACED LATER)

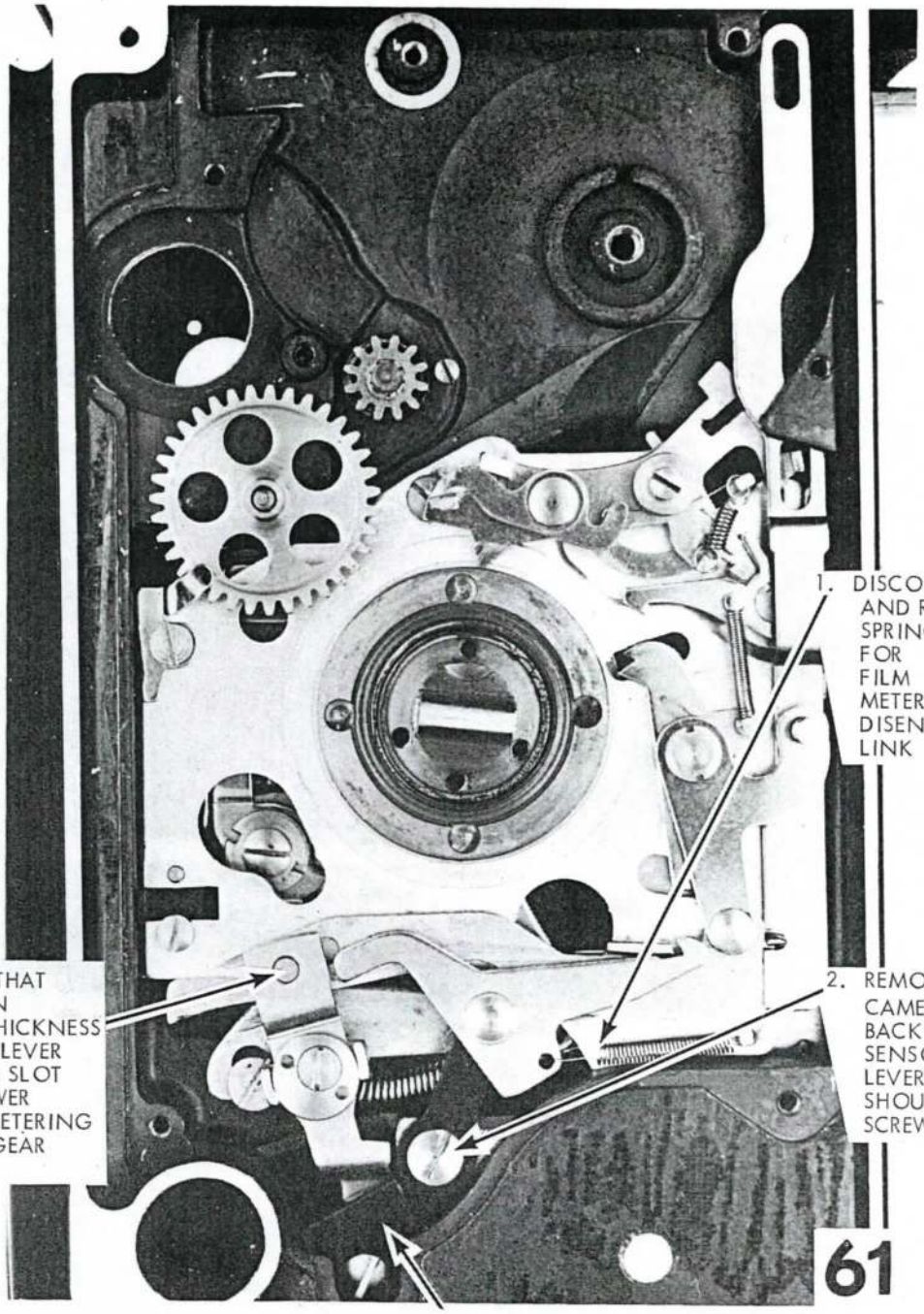


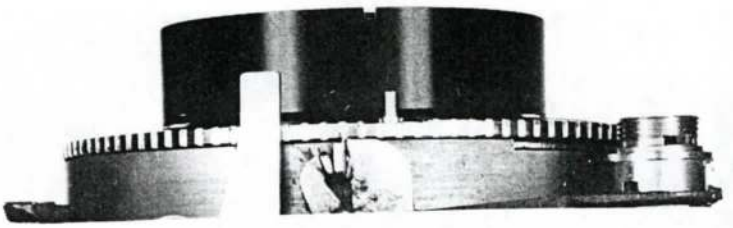
57


INSTALL COUNTER GEAR IN POSITION SHOWN -- MOVE FILM METERING IDLER GEAR AWAY FROM COUNTER GEAR
58

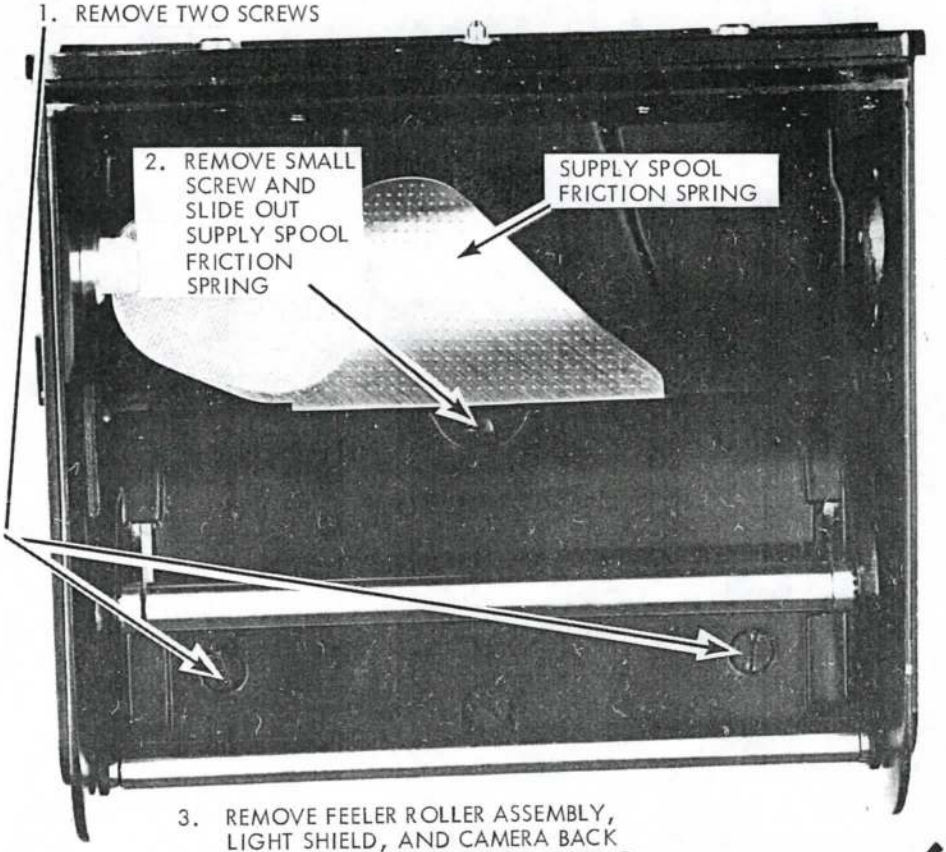

12
11
10
9
8
7
6
5
4
3
2
1
0
TURN COUNTER GEAR TO THIS POSITION, THEREBY APPLYING INITIAL TENSION TO FILM METERING CAM SPRING - REPLACE SHOULDER SCREW


ECCENTRIC
ADJUSTMENT
FOR SHUTTER
WIND
LEVER
CONTROL
CAM
SHUTTER WIND
LEVER

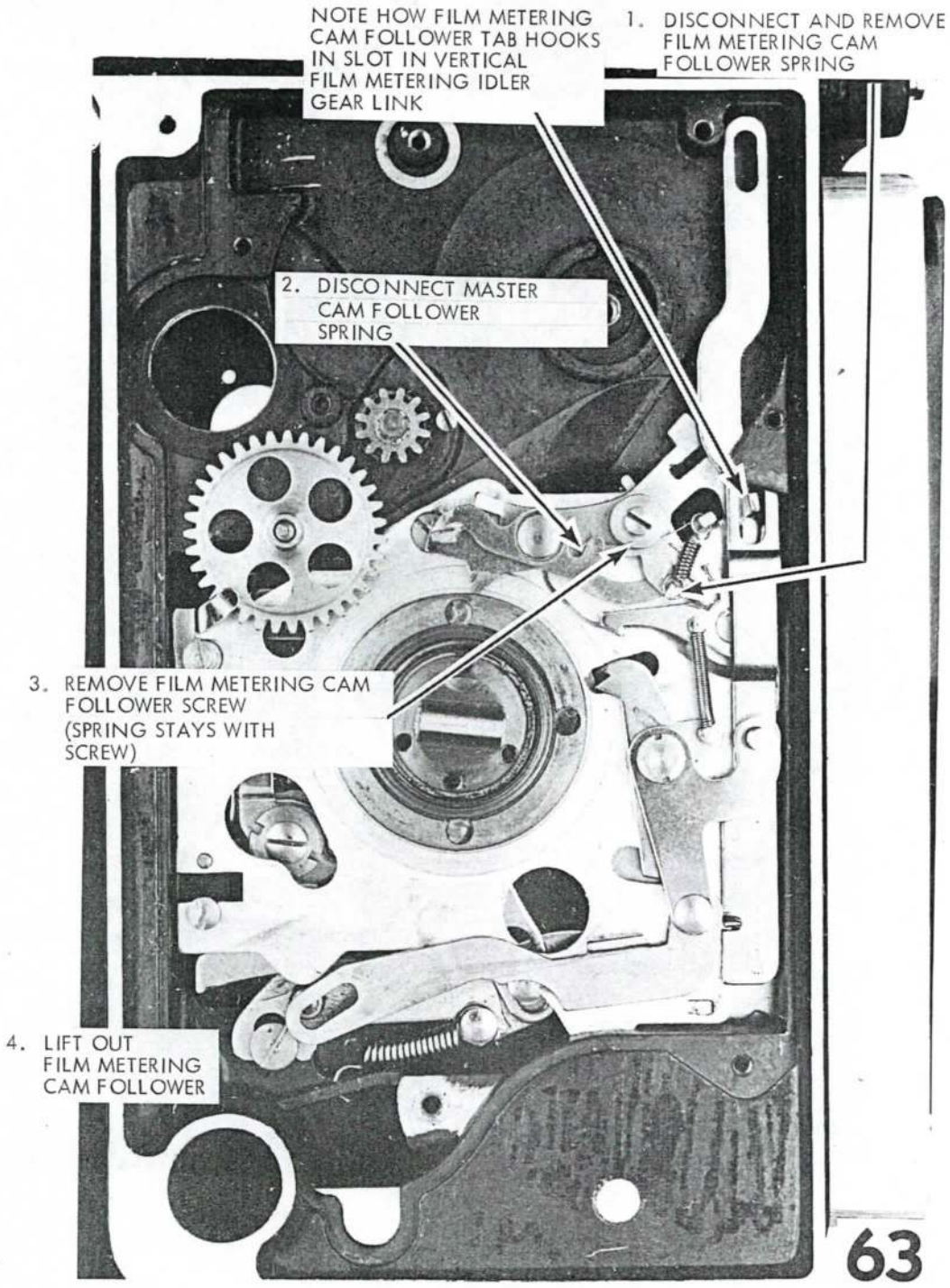

1. DISCONNECT AND REMOVE SPRING FOR FILM METERING DISENGAGEMENT LINK
2. REMOVE CAMERA BACK SENSOR LEVER SHOULDER SCREW
NOTE THAT PIN ON FILM THICKNESS FEELER LEVER FITS IN SLOT IN LOWER FILM METERING IDLER GEAR LINK
NOTE POSITION OF LIGHT SHIELD
61

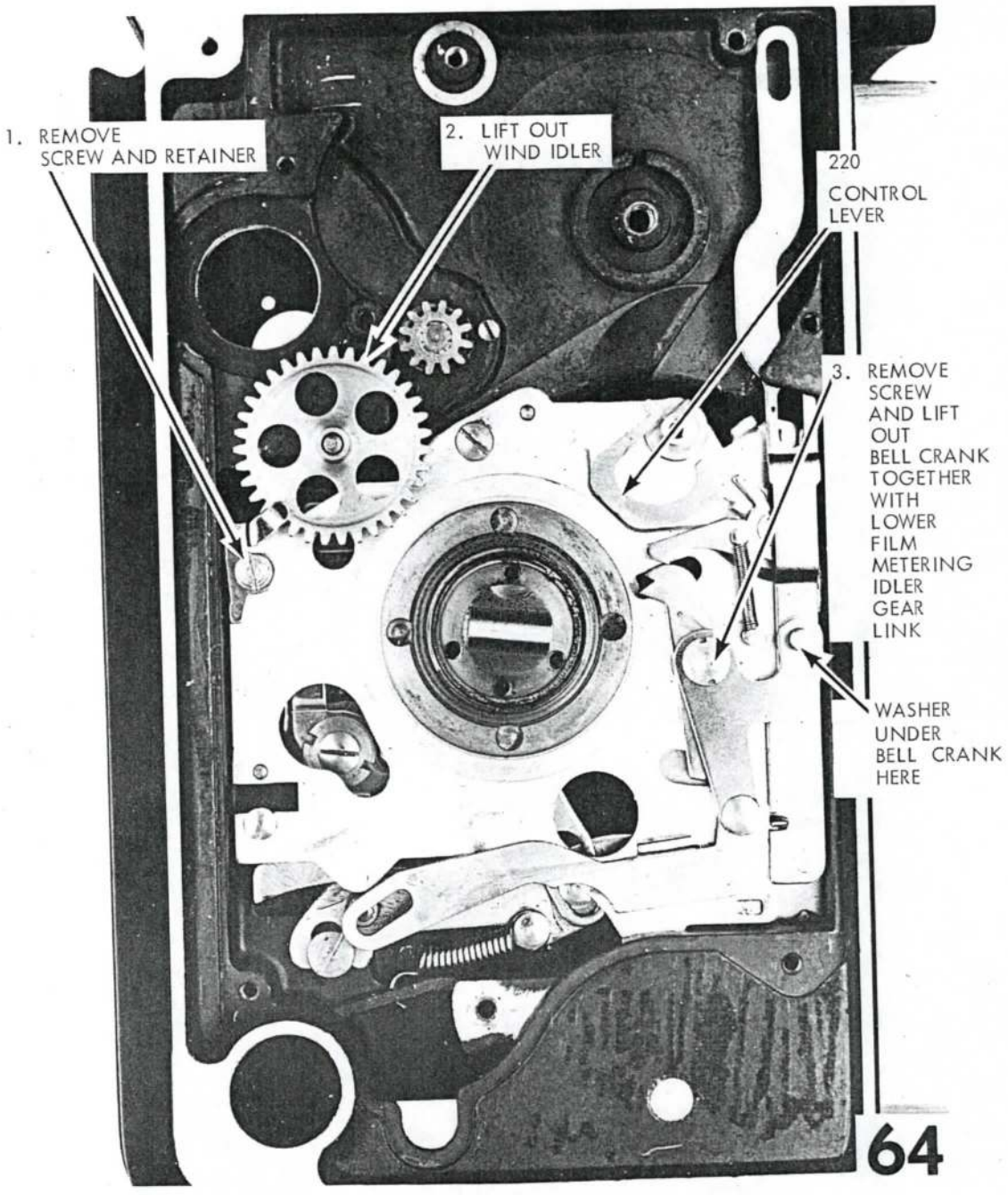


1. REMOVE TWO SCREWS

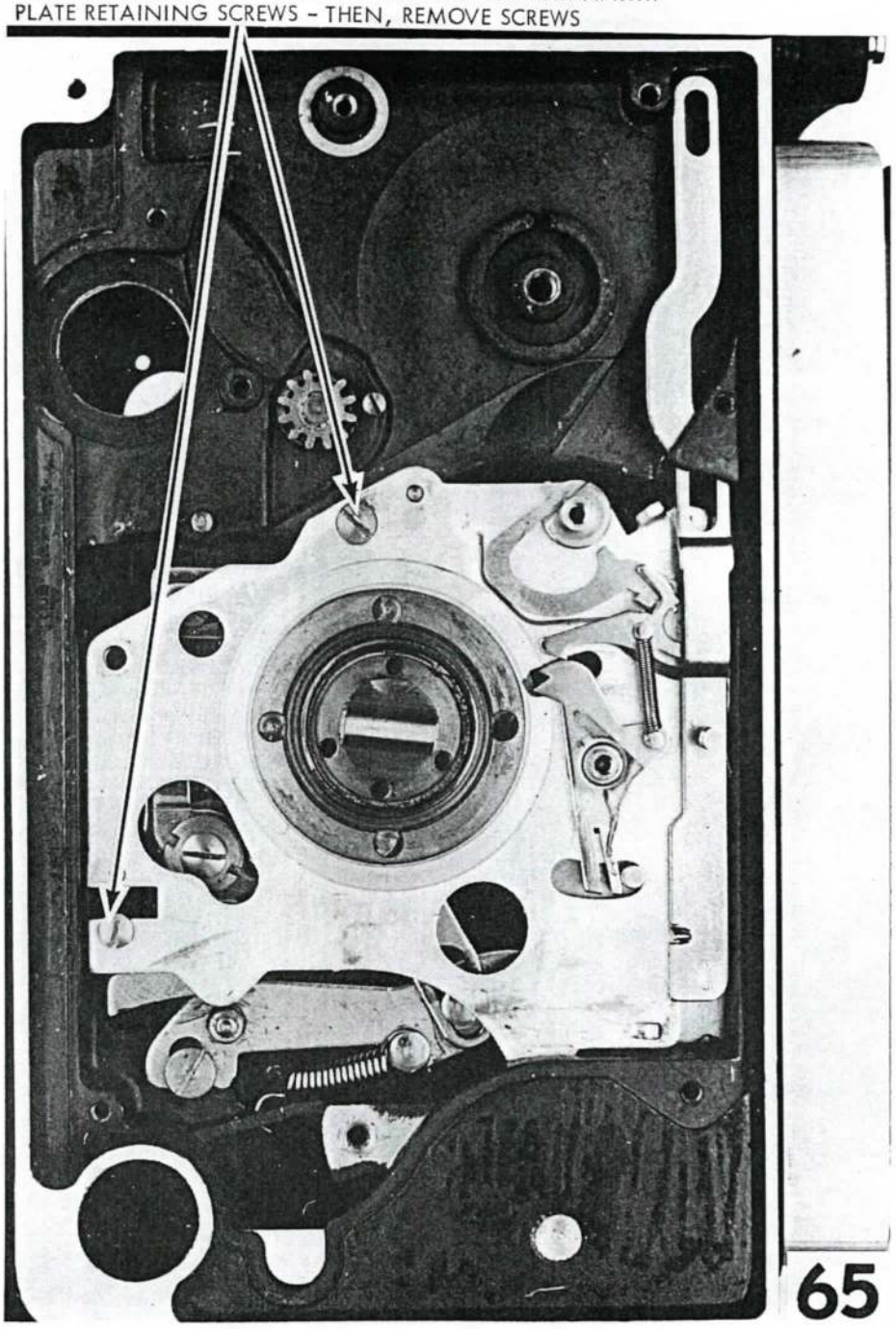


3. REMOVE FEELER ROLLER ASSEMBLY, LIGHT SHIELD, AND CAMERA BACK SENSOR LEVER WITH FILM METERING DISENGAGEMENT LINK -- ALL AS ONE UNIT


NOTE HOW FILM METERING CAM FOLLOWER TAB HOOKS IN SLOT IN VERTICAL FILM METERING IDLER GEAR LINK
1. DISCONNECT AND REMOVE FILM METERING CAM FOLLOWER SPRING
2. DISCONNECT MASTER CAM FOLLOWER SPRING
3. REMOVE FILM METERING CAM FOLLOWER SCREW (SPRING STAYS WITH SCREW)
4. LIFT OUT FILM METERING CAM FOLLOWER

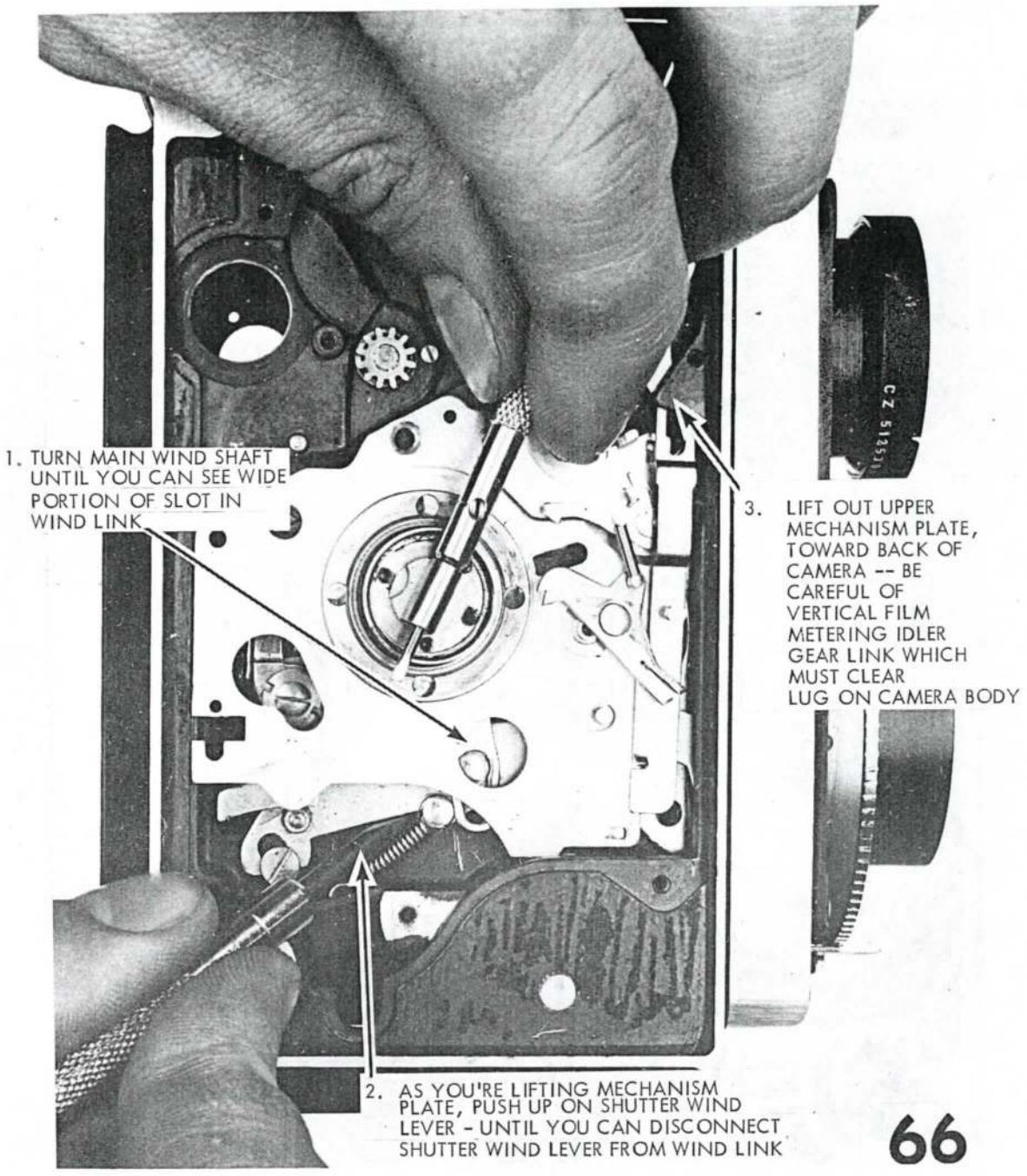

1. REMOVE SCREW AND RETAINER
2. LIFT OUT WIND IDLER
220 CONTROL LEVER
3. REMOVE SCREW AND LIFT OUT BELL CRANK TOGETHER WITH LOWER FILM METERING IDLER GEAR LINK
WASHER UNDER BELL CRANK HERE

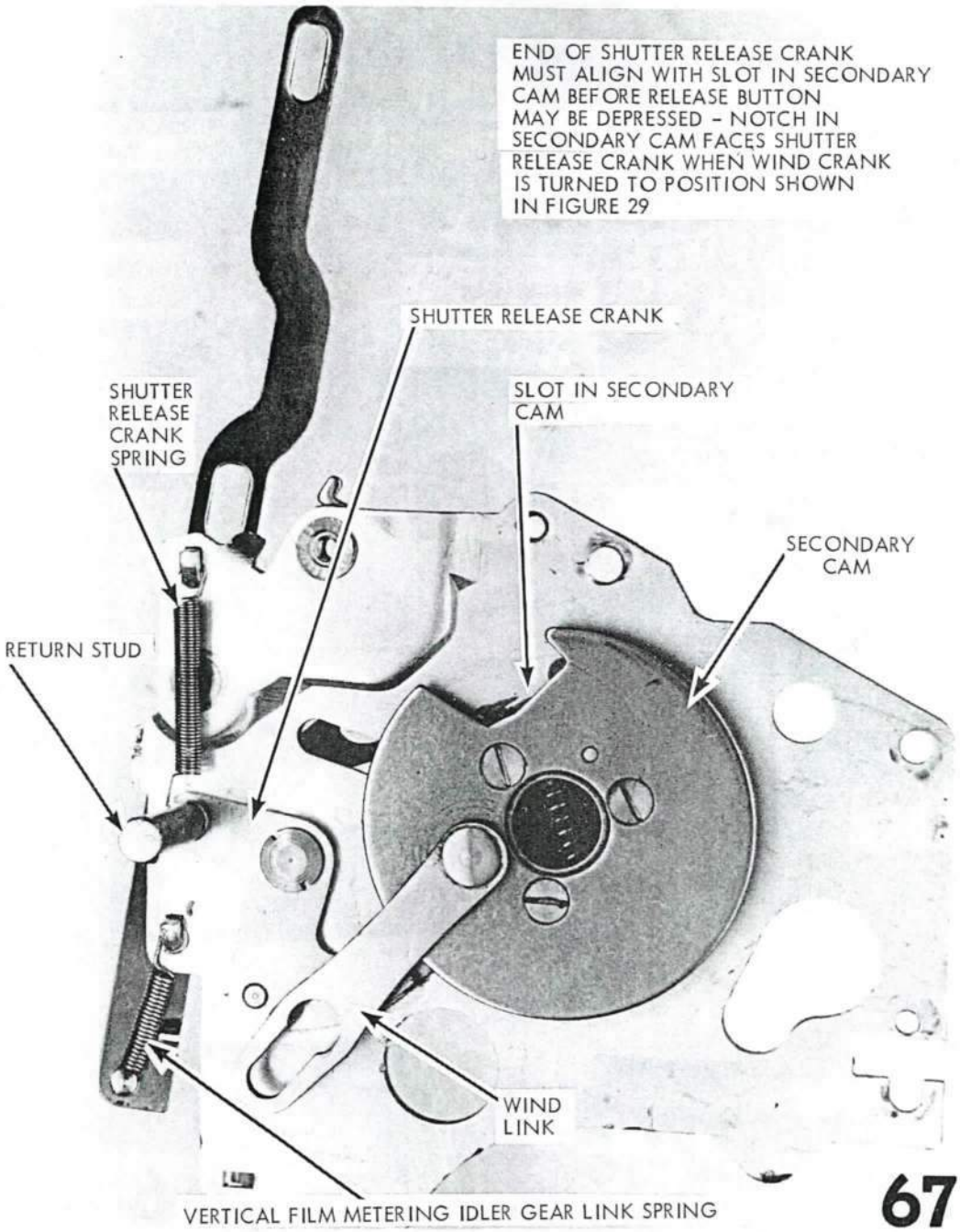
NOTE DIFFERENCE BETWEEN TWO REMAINING MECHANISM PLATE RETAINING SCREWS - THEN, REMOVE SCREWS

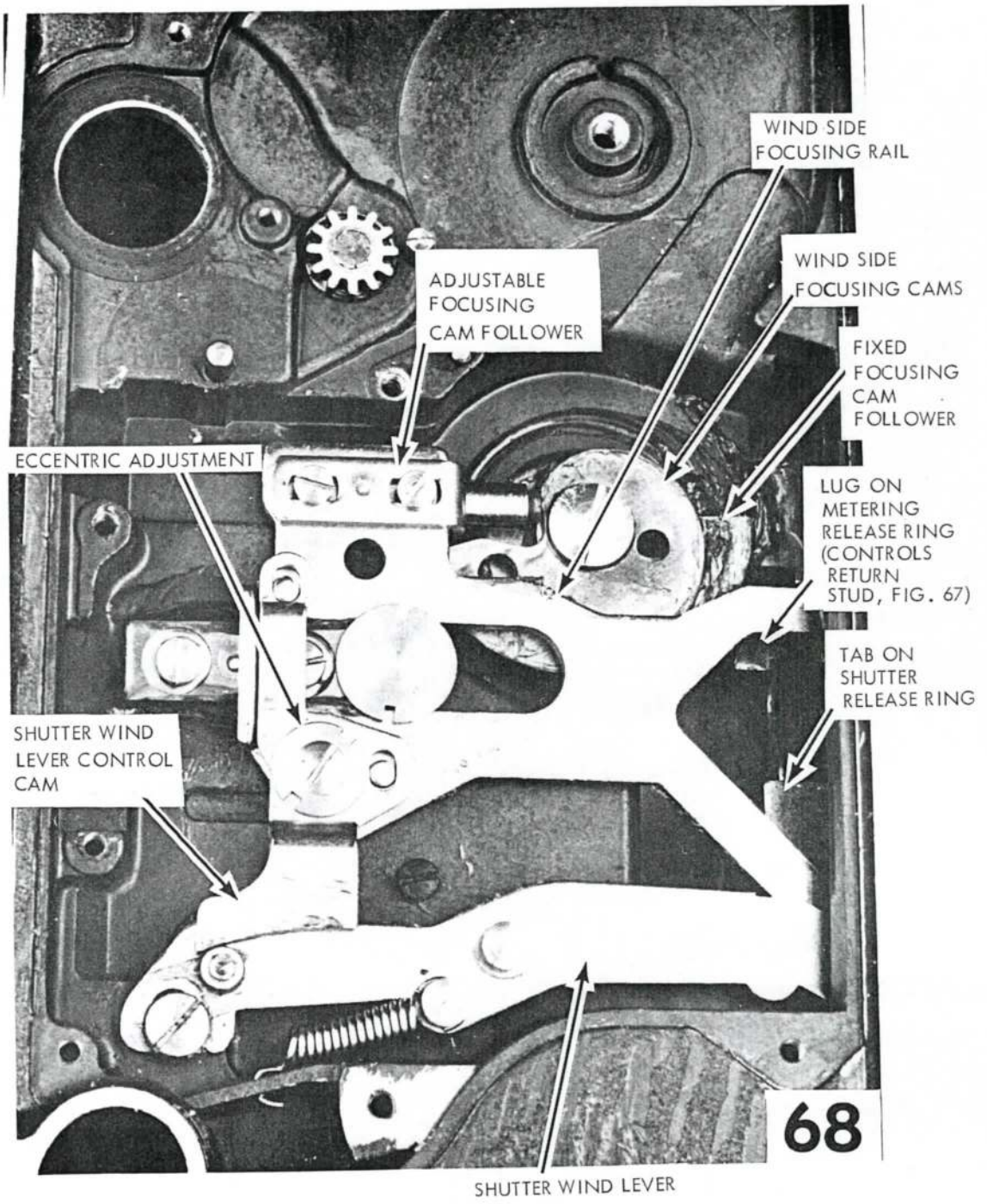


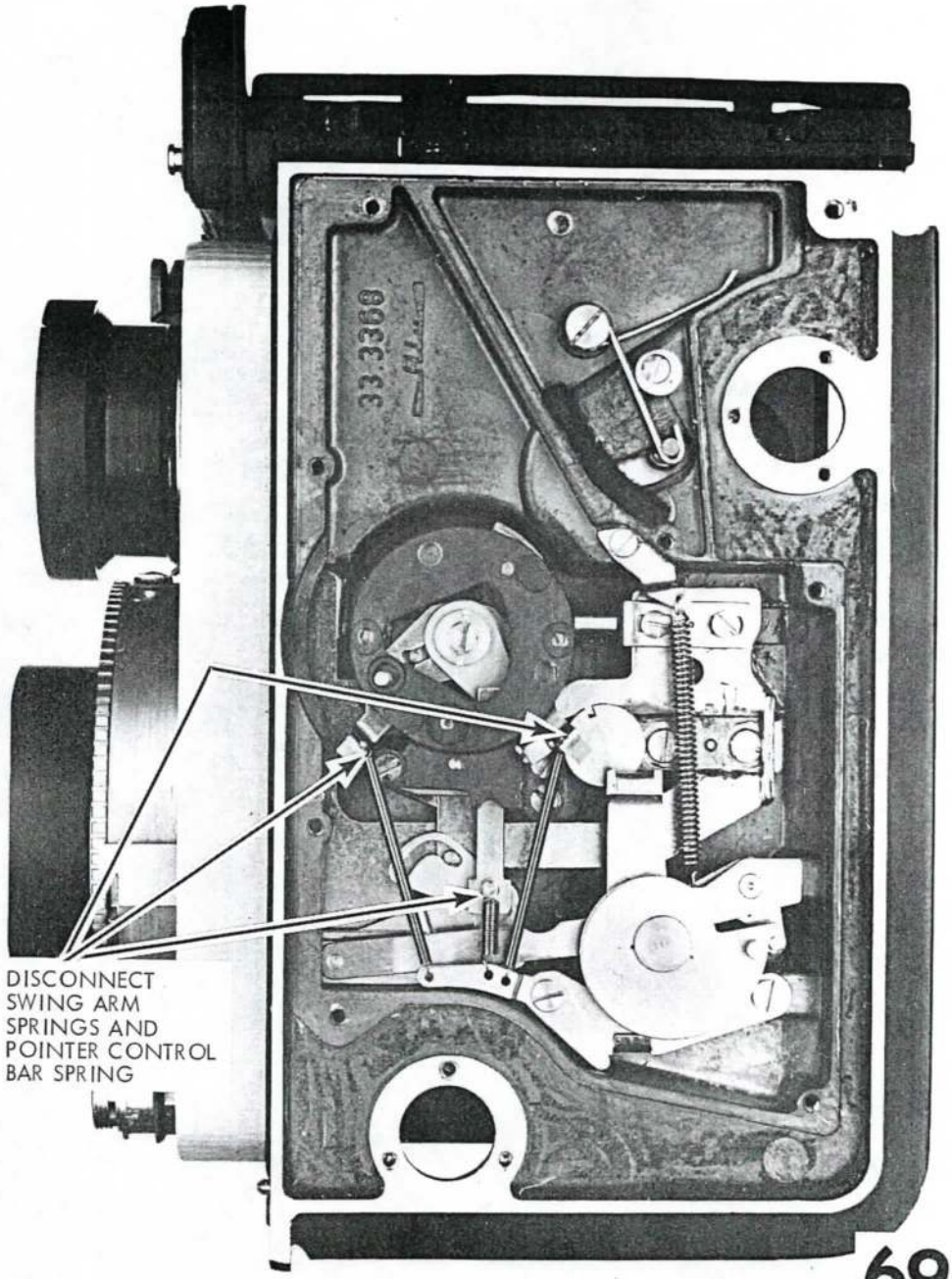
65

PROCEDURE FOR REMOVING MECHANISM PLATE

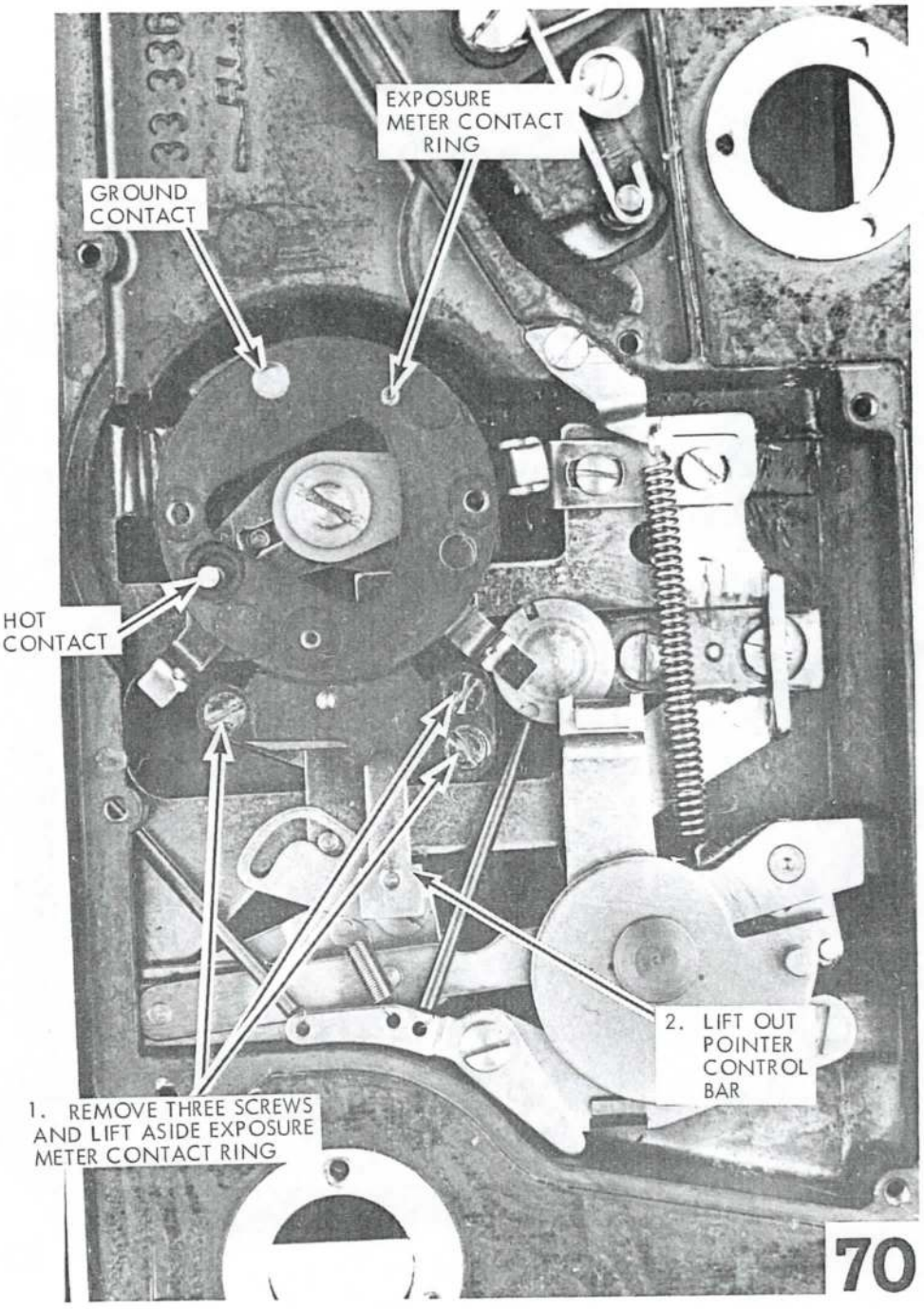

1. TURN MAIN WIND SHAFT UNTIL YOU CAN SEE WIDE PORTION OF SLOT IN WIND LINK
2. AS YOU'RE LIFTING MECHANISM PLATE, PUSH UP ON SHUTTER WIND LEVER - UNTIL YOU CAN DISCONNECT SHUTTER WIND LEVER FROM WIND LINK
3. LIFT OUT UPPER MECHANISM PLATE, TOWARD BACK OF CAMERA -- BE CAREFUL OF VERTICAL FILM METERING IDLER GEAR LINK WHICH MUST CLEAR LUG ON CAMERA BODY

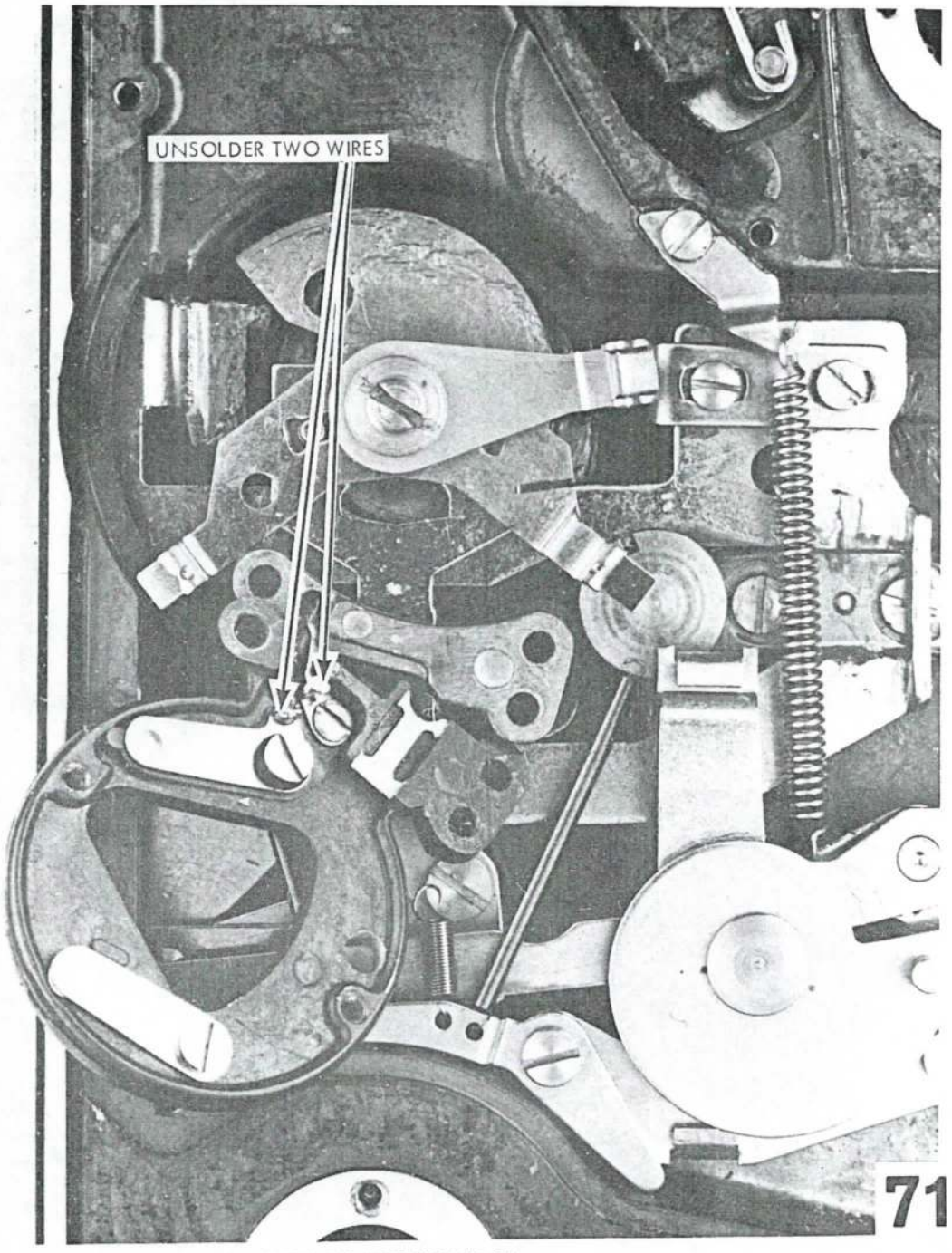

END OF SHUTTER RELEASE CRANK MUST ALIGN WITH SLOT IN SECONDARY CAM BEFORE RELEASE BUTTON MAY BE DEPRESSED - NOTCH IN SECONDARY CAM FACES SHUTTER RELEASE CRANK WHEN WIND CRANK IS TURNED TO POSITION SHOWN IN FIGURE 29
SHUTTER RELEASE CRANK
SHUTTER RELEASE CRANK SPRING
SLOT IN SECONDARY CAM
SECONDARY CAM
RETURN STUD
WIND LINK
VERTICAL FILM METERING IDLER GEAR LINK SPRING


WIND SIDE FOCUSING RAIL
ADJUSTABLE FOCUSING CAM FOLLOWER
WIND SIDE FOCUSING CAMS
FIXED FOCUSING CAM FOLLOWER
ECCENTRIC ADJUSTMENT
LUG ON METERING RELEASE RING (CONTROLS RETURN STUD, FIG. 67)
TAB ON SHUTTER RELEASE RING
SHUTTER WIND LEVER CONTROL CAM
68
SHUTTER WIND LEVER

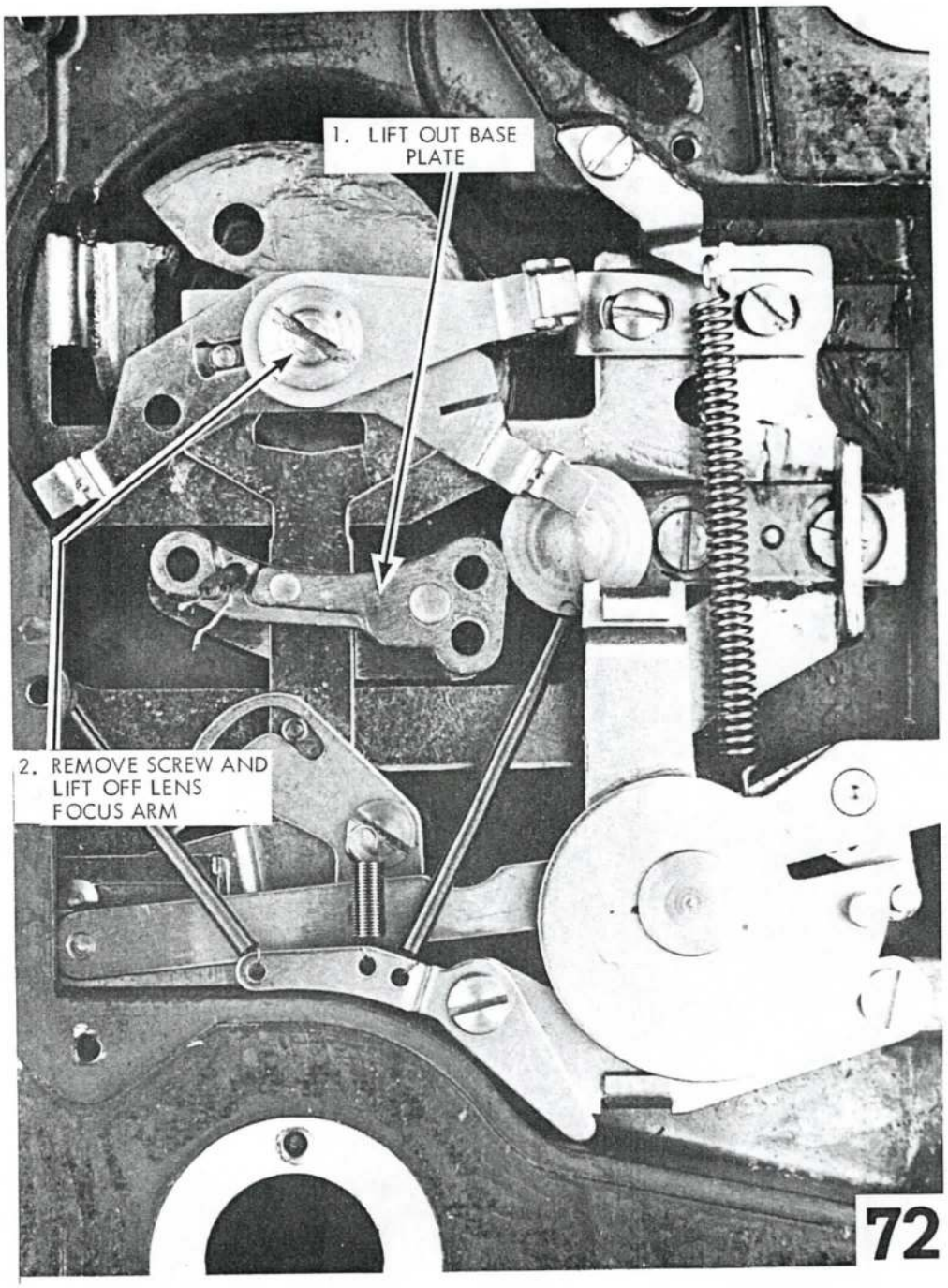

33.3368
DISCONNECT
SWING ARM
SPRINGS AND
POINTER CONTROL
BAR SPRING

69

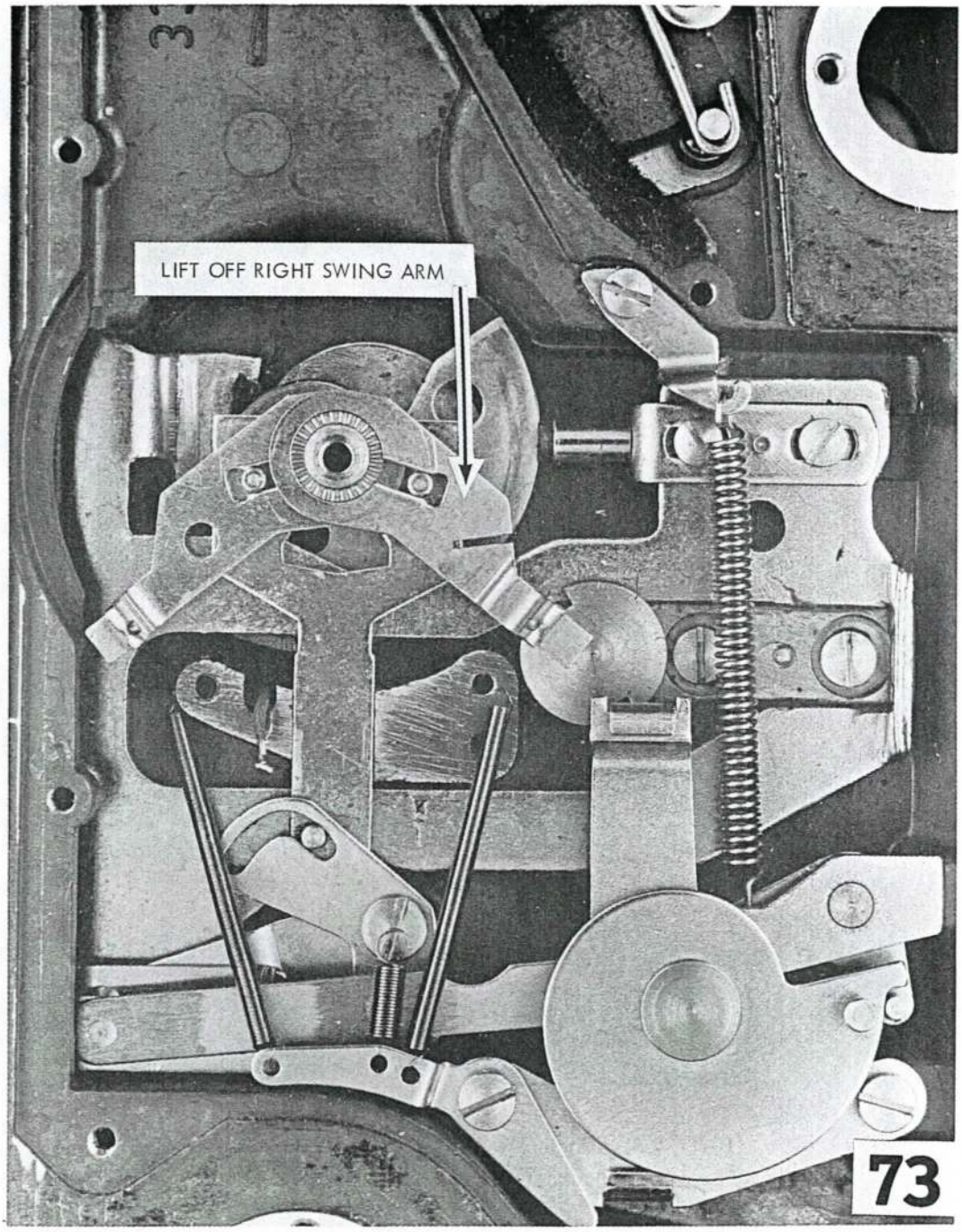

EXPOSURE METER CONTACT RING
GROUND CONTACT
HOT CONTACT
2. LIFT OUT POINTER CONTROL BAR
1. REMOVE THREE SCREWS AND LIFT ASIDE EXPOSURE METER CONTACT RING

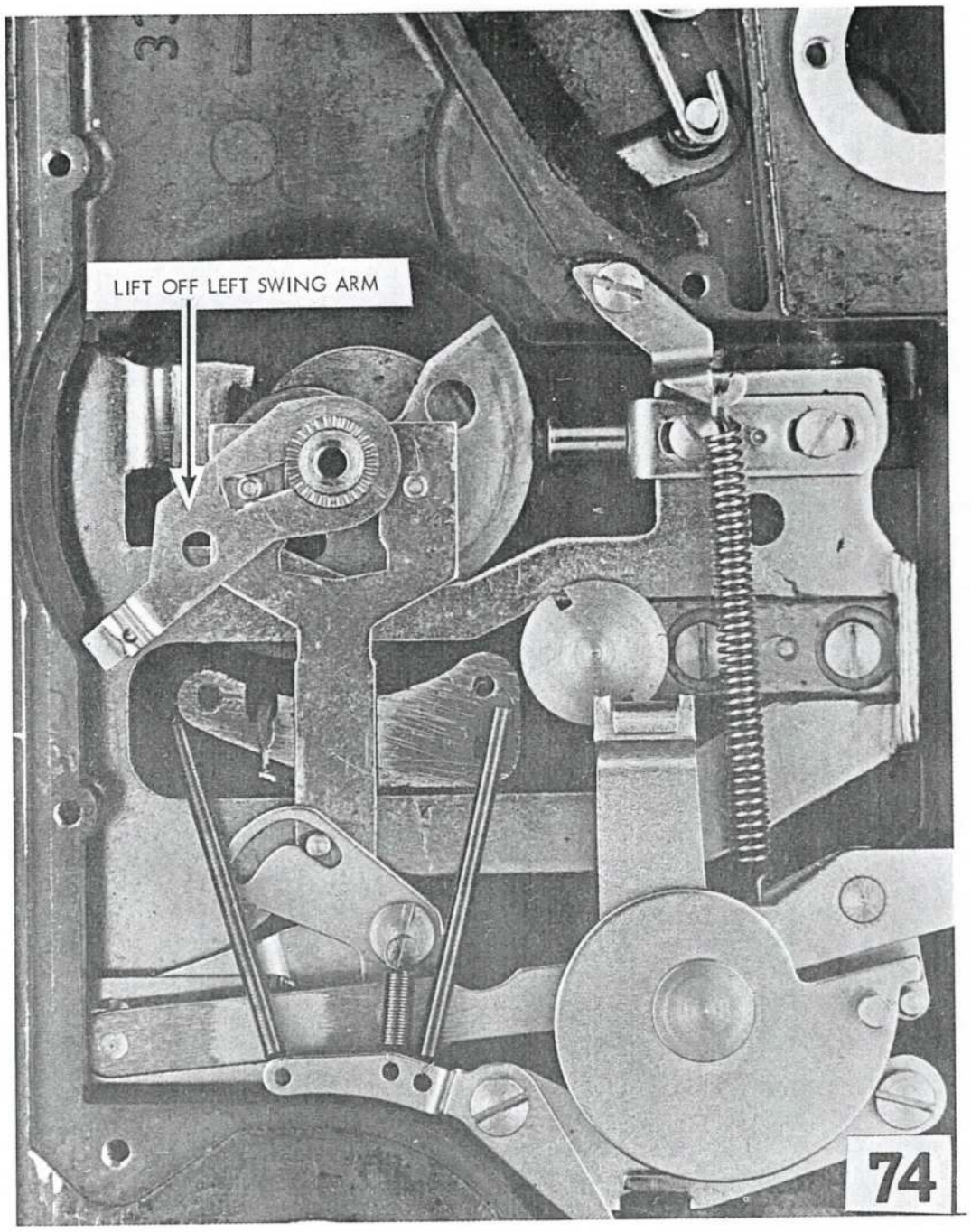


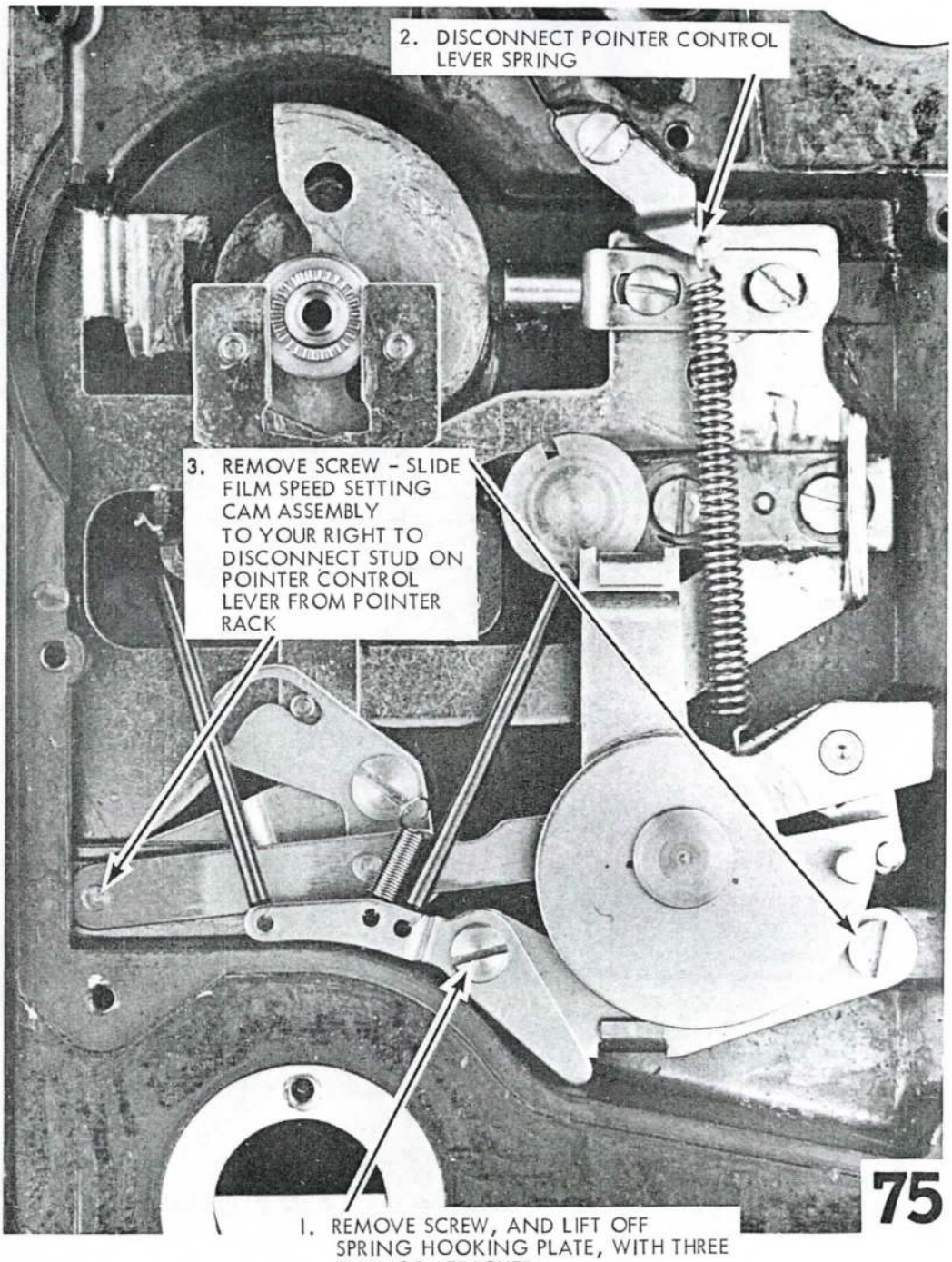
RED WIRE GOES TO HOT CONTACT,
BARE WIRE GOES TO GROUND CONNECTOR

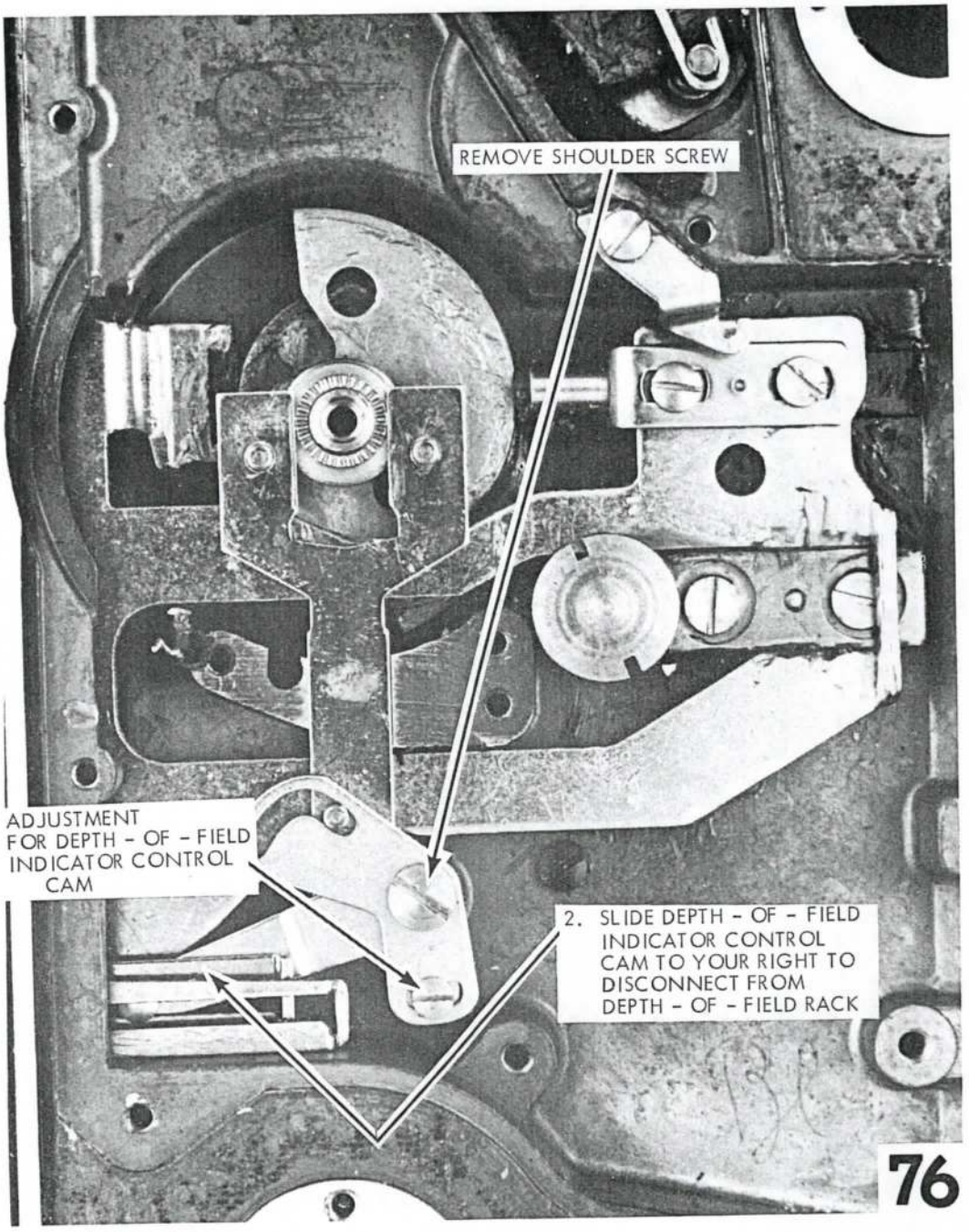

1. LIFT OUT BASE PLATE
2. REMOVE SCREW AND LIFT OFF LENS FOCUS ARM

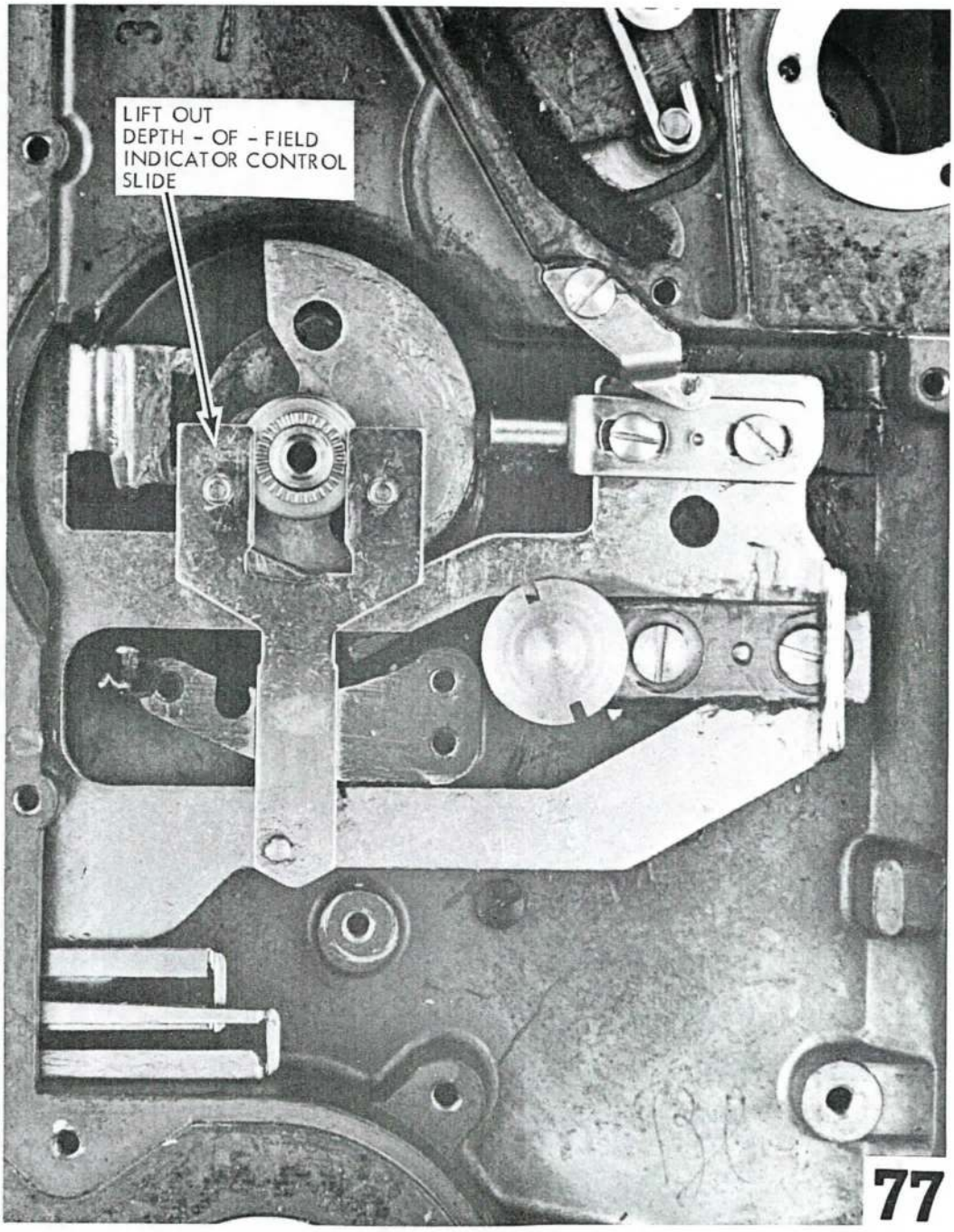
72


LIFT OFF RIGHT SWING ARM
73

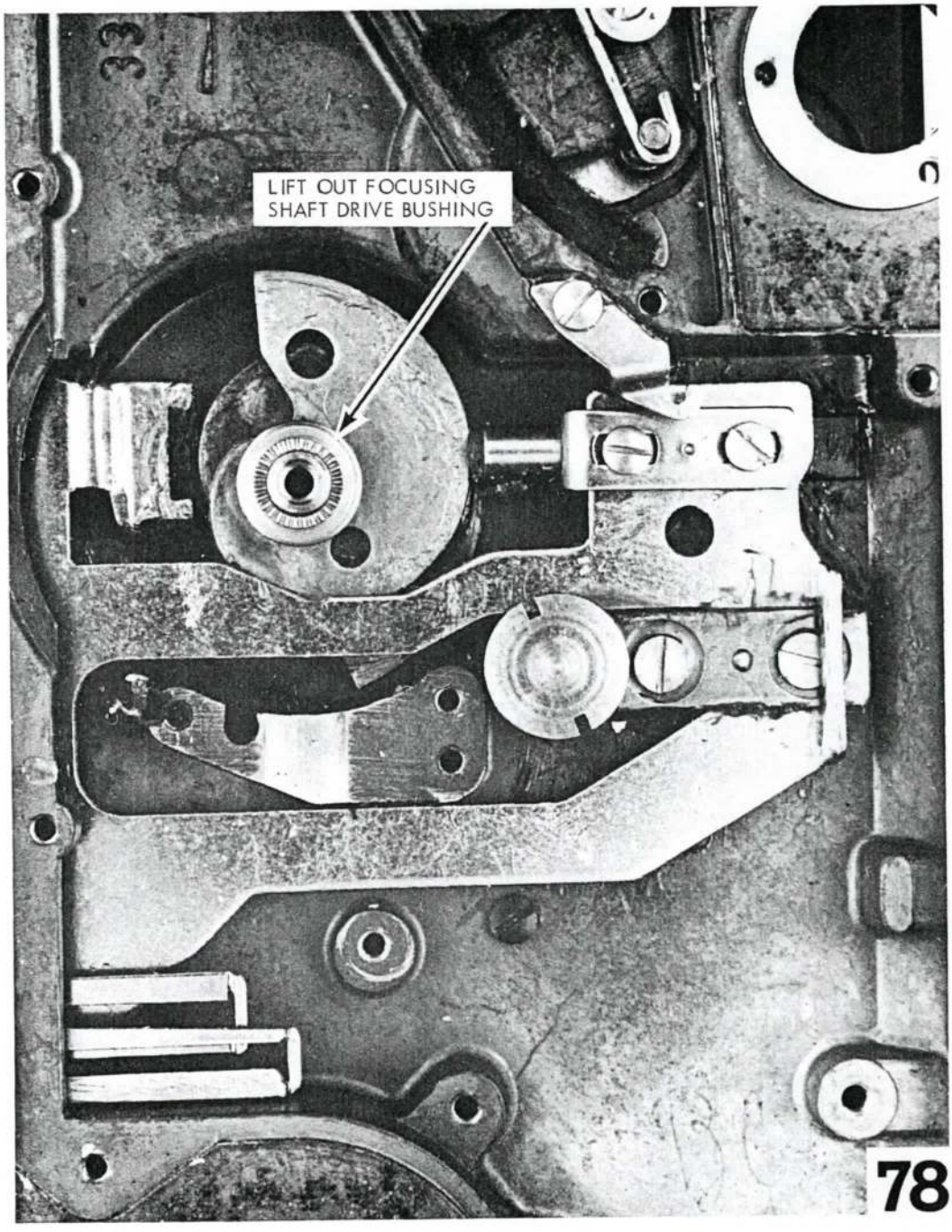

LIFT OFF LEFT SWING ARM
74


2. DISCONNECT POINTER CONTROL LEVER SPRING
3. REMOVE SCREW – SLIDE FILM SPEED SETTING CAM ASSEMBLY TO YOUR RIGHT TO DISCONNECT STUD ON POINTER CONTROL LEVER FROM POINTER RACK
1. REMOVE SCREW, AND LIFT OFF SPRING HOOKING PLATE, WITH THREE SPRINGS ATTACHED
75

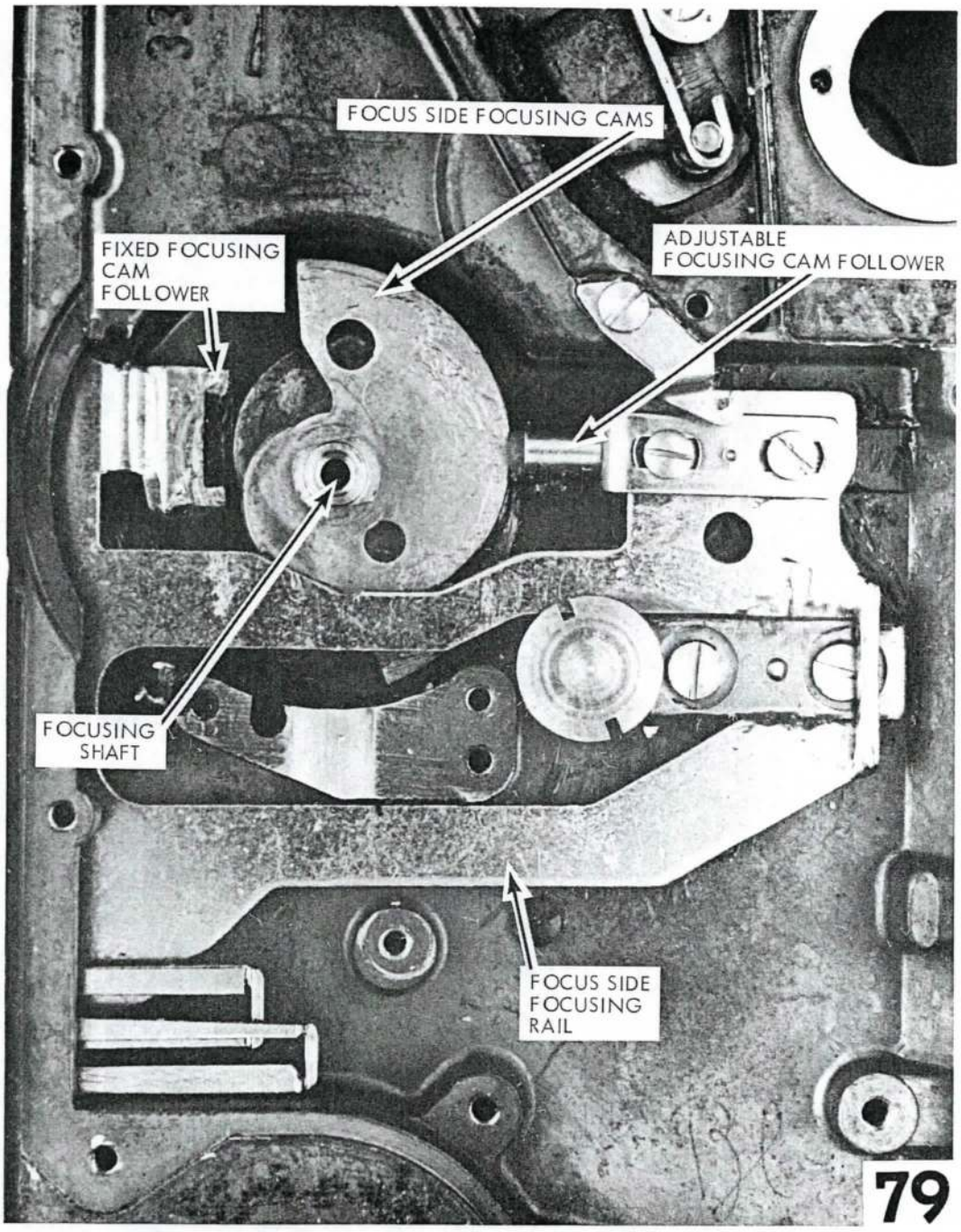

REMOVE SHOULDER SCREW
ADJUSTMENT FOR DEPTH - OF - FIELD INDICATOR CONTROL CAM
2. SLIDE DEPTH - OF - FIELD INDICATOR CONTROL CAM TO YOUR RIGHT TO DISCONNECT FROM DEPTH - OF - FIELD RACK



77

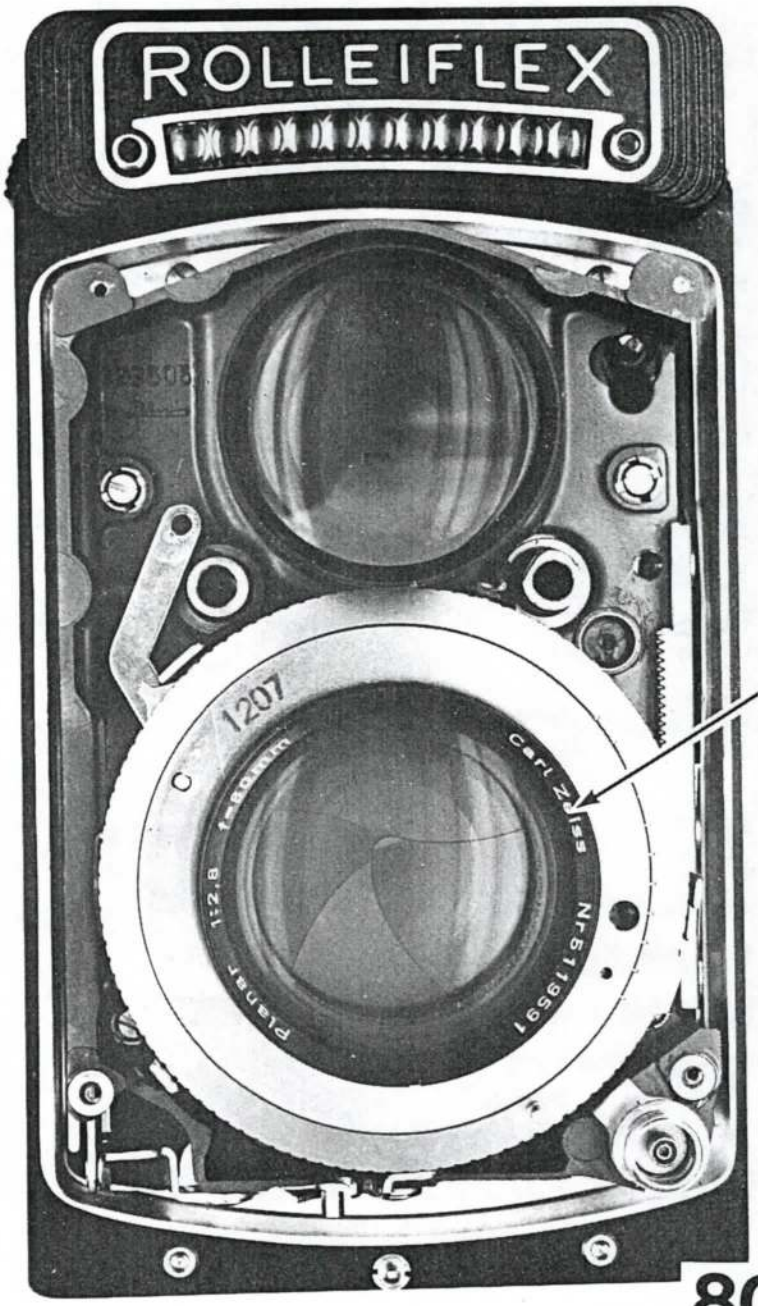


78

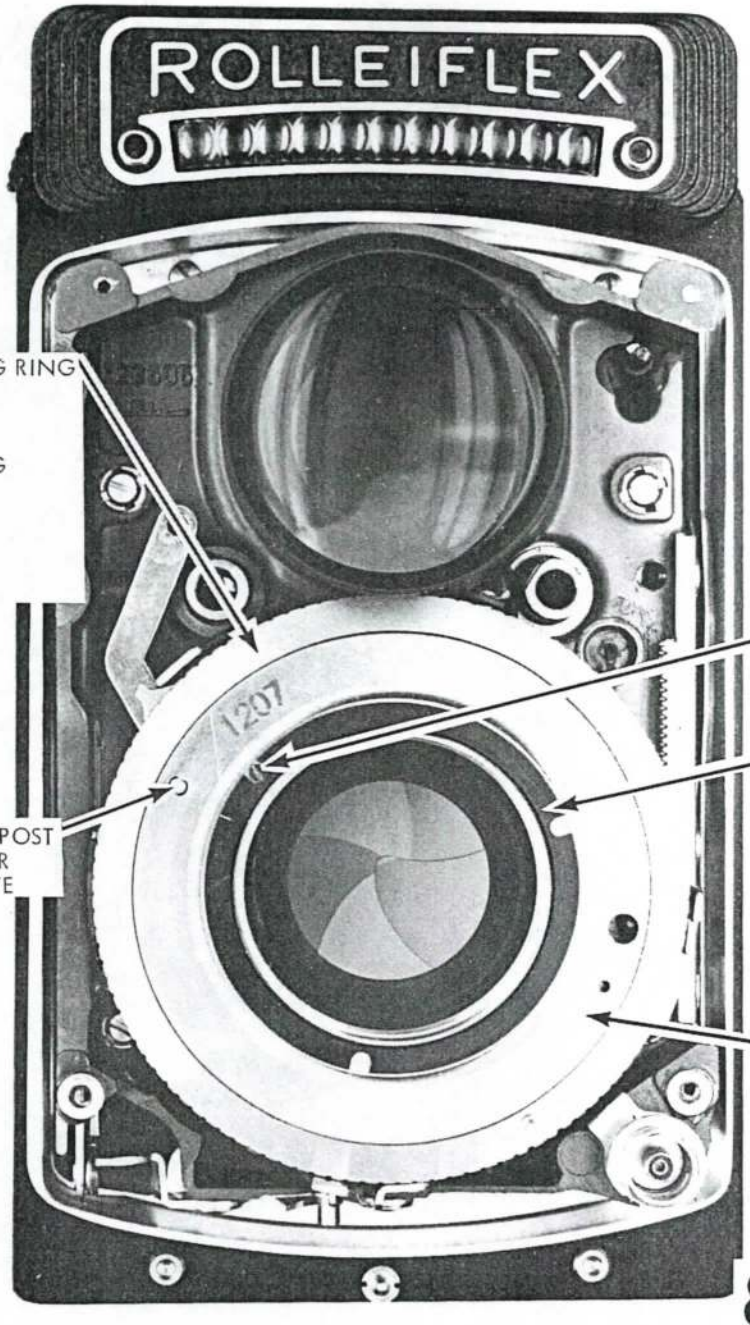

FOCUS SIDE FOCUSING CAMS
FIXED FOCUSING CAM FOLLOWER
ADJUSTABLE FOCUSING CAM FOLLOWER
FOCUSING SHAFT
FOCUS SIDE FOCUSING RAIL

79

FIGURES 80 THROUGH 93 SHOW HOW TO CLEAN SHUTTER BLADE OPERATING RING AND ESCAPEMENTS WITHOUT REMOVING SHUTTER FROM CAMERA



80



TURN SPEED SETTING RING TO NOTE TIGHTNESS - ON REASSEMBLY, TIGHTEN RETAINING RING FOR THE SAME TENSION ON THE SPEED SETTING RING

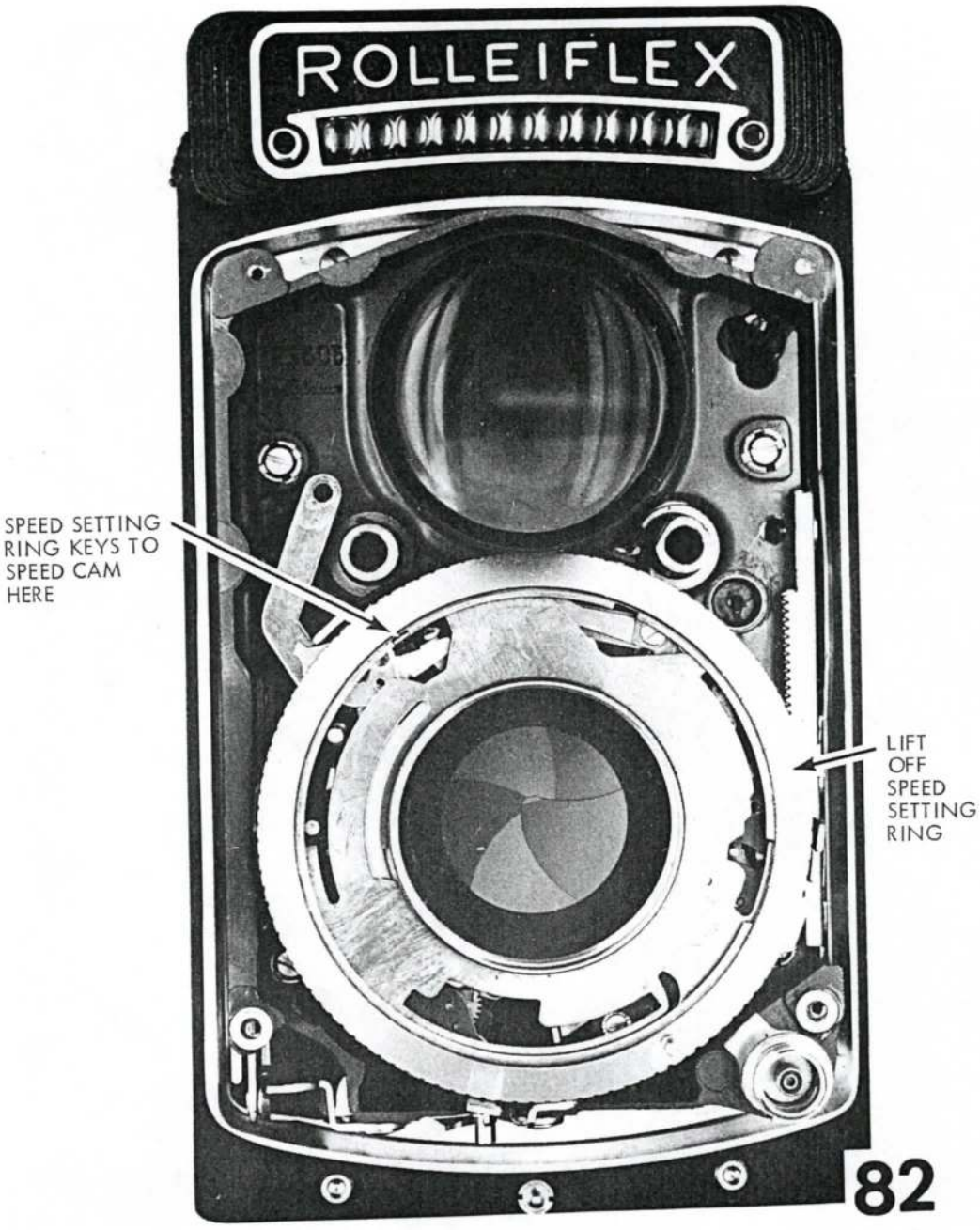
1. REMOVE LOCK SCREW

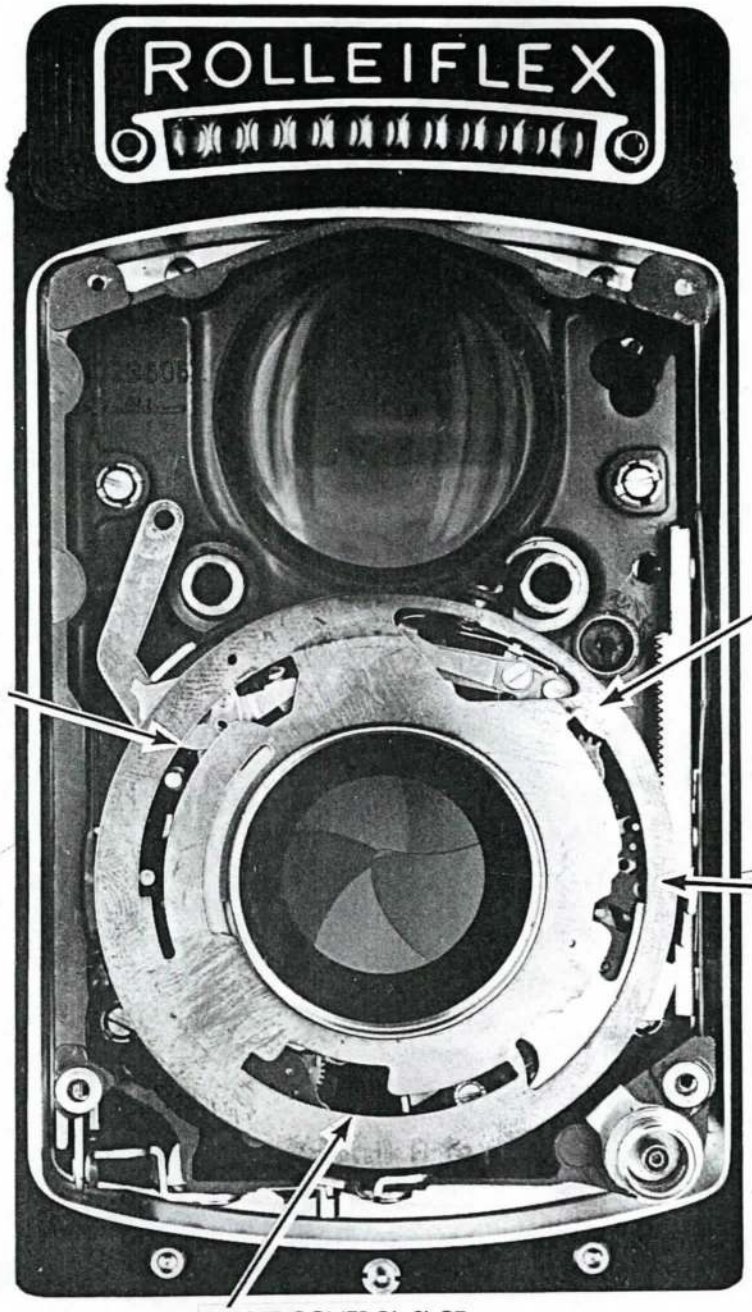
2. UNSCREW RETAINING RING

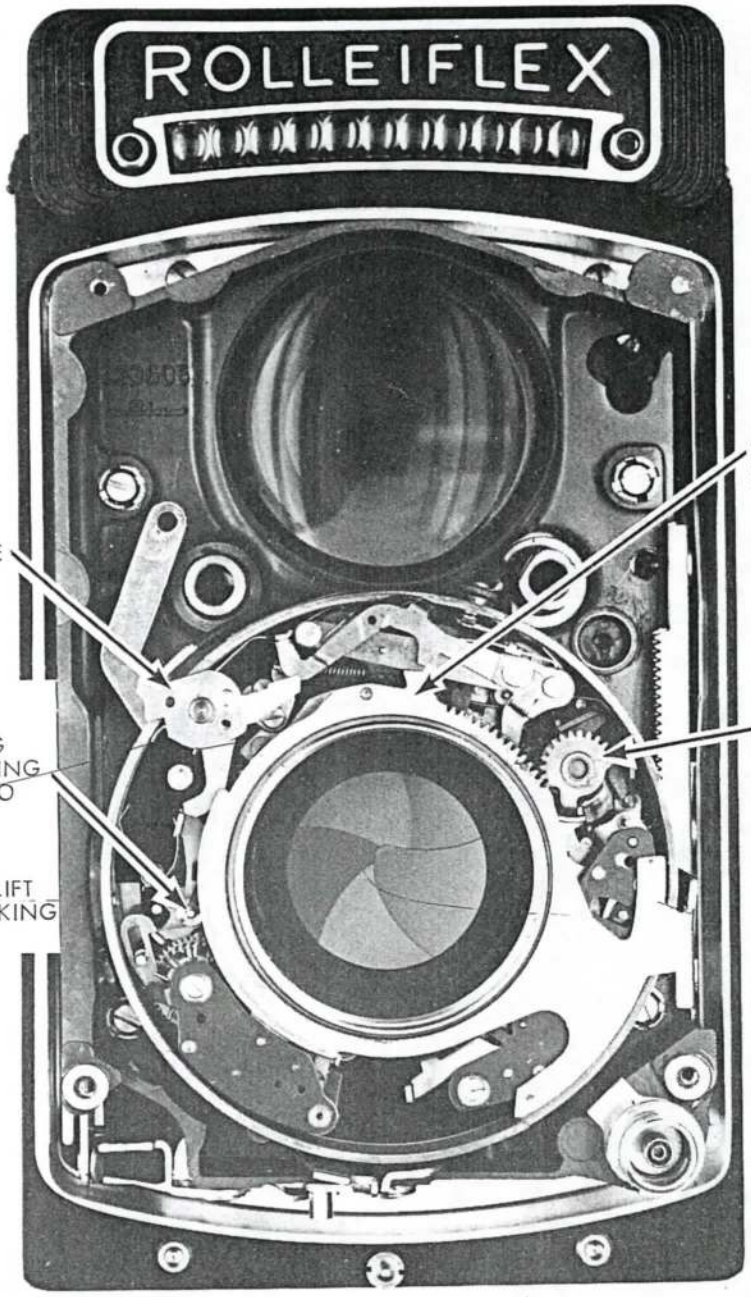
LOCATING POST FOR SHUTTER COVER PLATE

3. LIFT OFF SHUTTER COVER PLATE

81

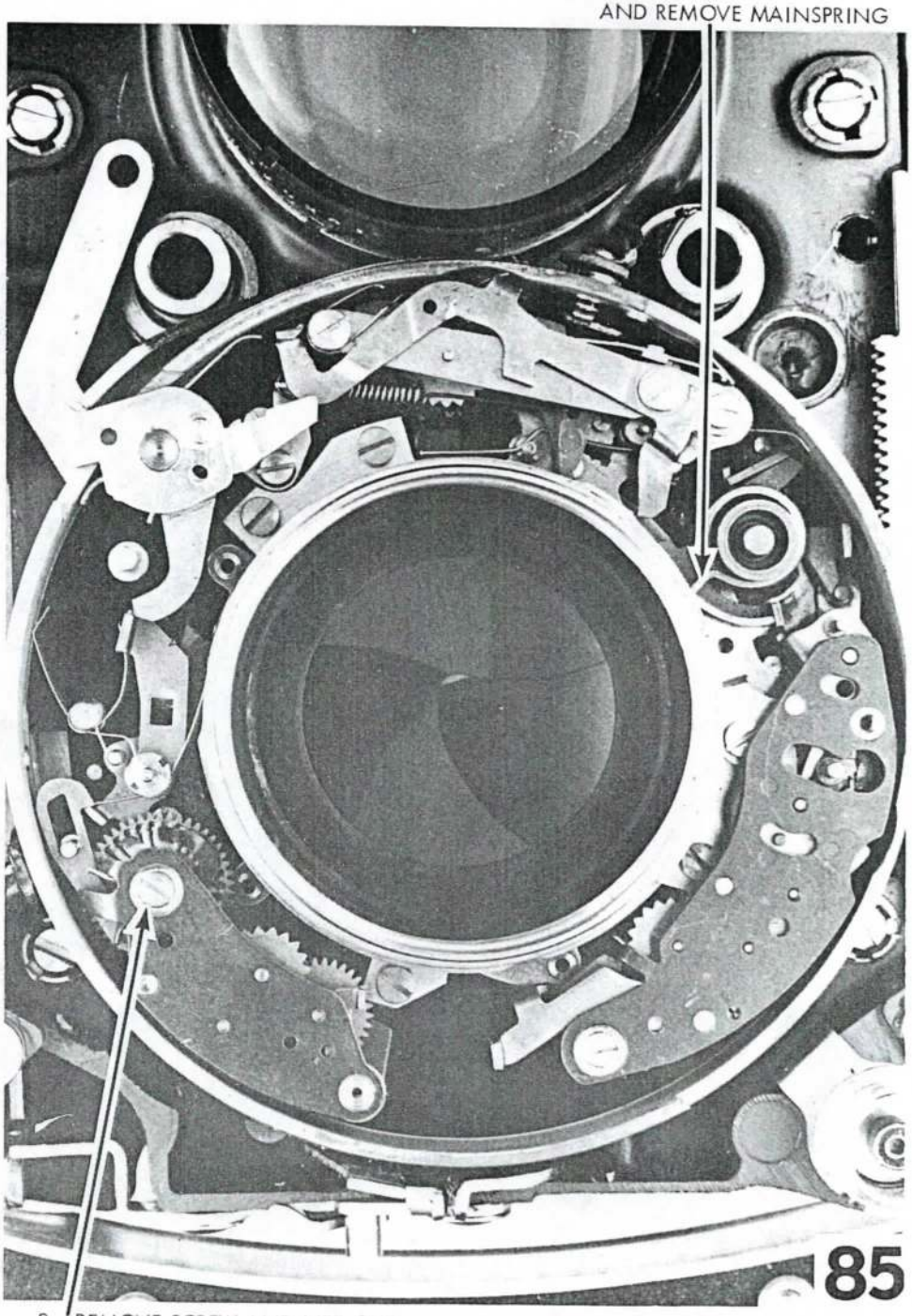

ROLLEIFLEX
SPEED SETTING RING KEYS TO SPEED CAM HERE
LIFT OFF SPEED SETTING RING


ROLLEIFLEX
BULB
LEVER
CONTROL
SLOT
LIFT OFF
SPEED CAM
RETARD CONTROL
SLOT
PALLET CONTROL SLOT


ROLLEIFLEX
COCKING RING
OUTER RELEASE LEVER
2. NOTE THAT COCKING RING SPRING HOOKS TO POST ON BULB LEVER SCREW - LIFT OFF COCKING RING
1. NOTE TIMING OF COCKING PINION TO COCKING RING LIFT OUT COCKING PINION

COCKING RING SPRING REMAINS WITH COCKING RING

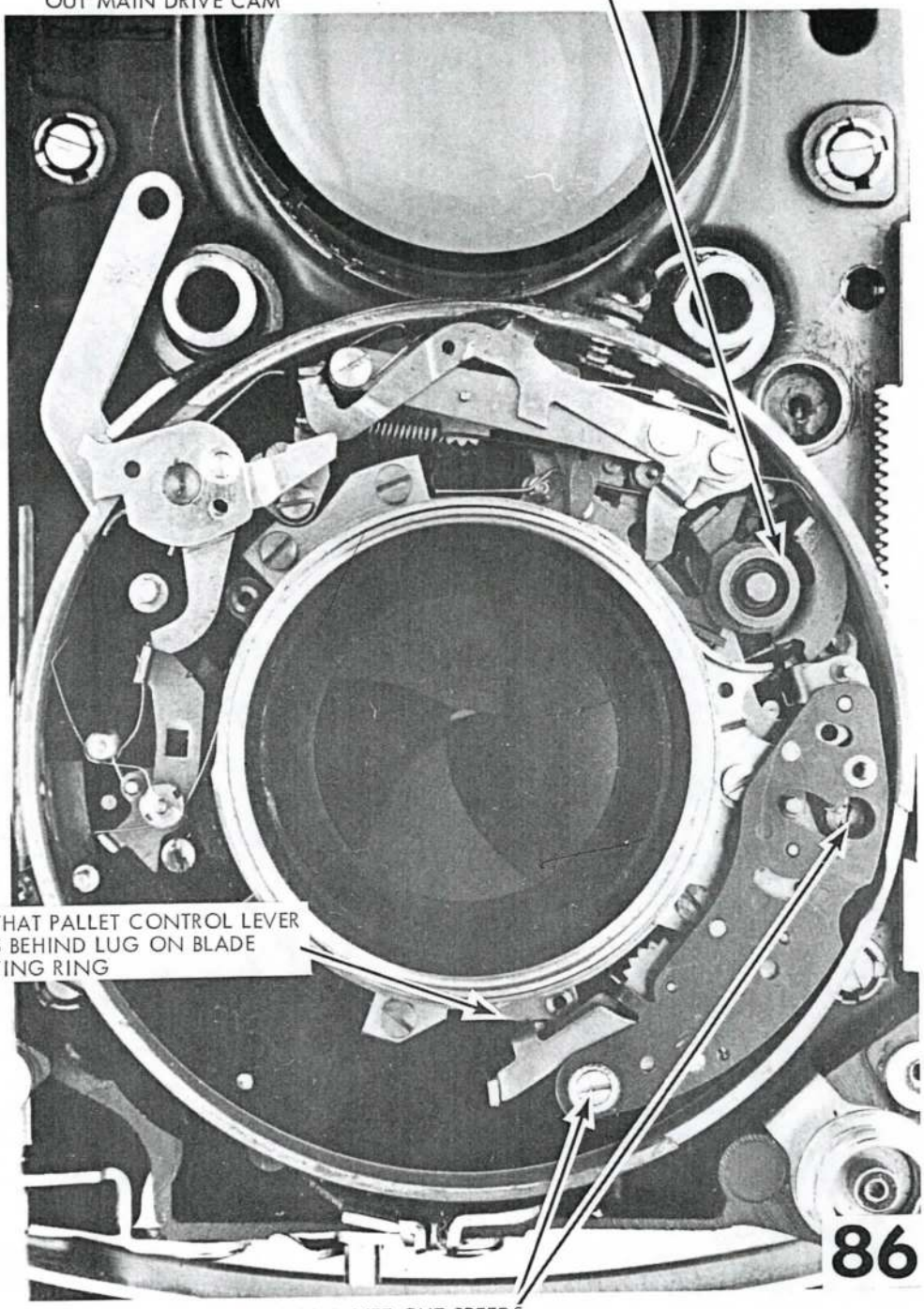
1. DISCONNECT
AND REMOVE MAINSPRING



85

2. REMOVE SCREW AND LIFT OUT
DELAYED-ACTION ESCAPEMENT

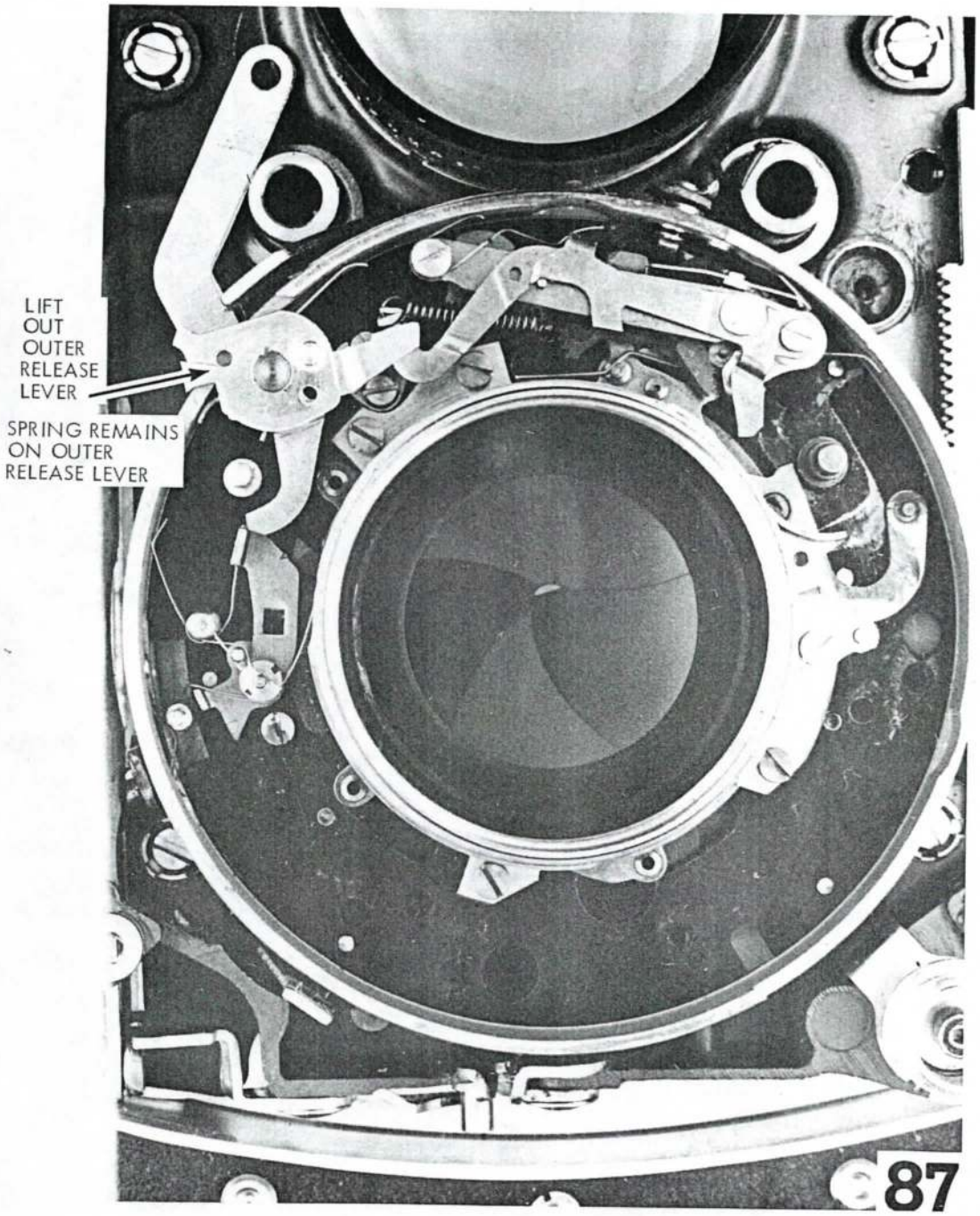
1. TURN MAIN DRIVE CAM TO POSITION SHOWN - LIFT OUT MAIN DRIVE CAM



NOTE THAT PALLET CONTROL LEVER HOOKS BEHIND LUG ON BLADE OPERATING RING

86

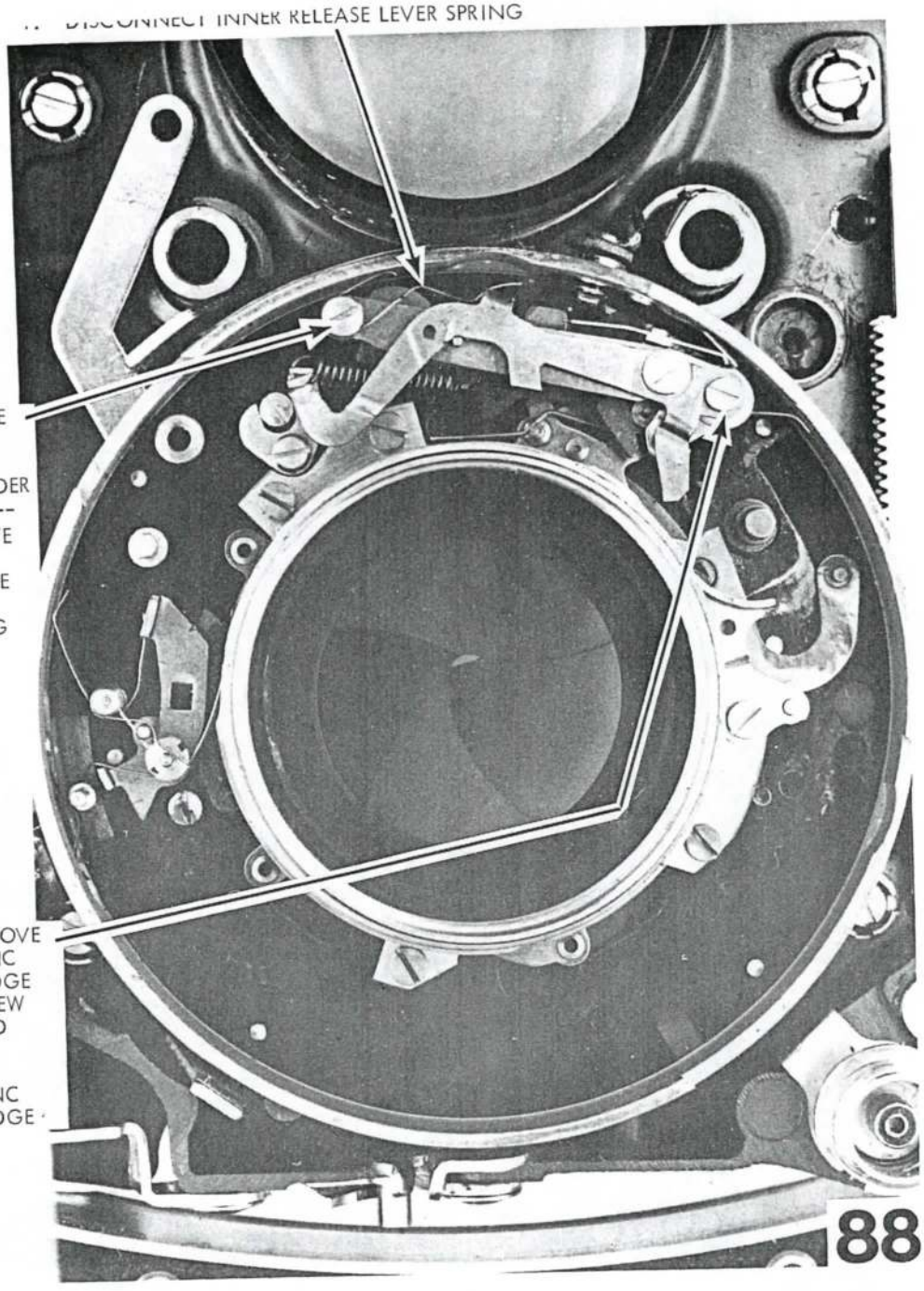
2. REMOVE TWO SCREWS AND LIFT OUT SPEEDS ESCAPEMENT


LIFT
OUT
OUTER
RELEASE
LEVER
SPRING REMAINS
ON OUTER
RELEASE LEVER
87

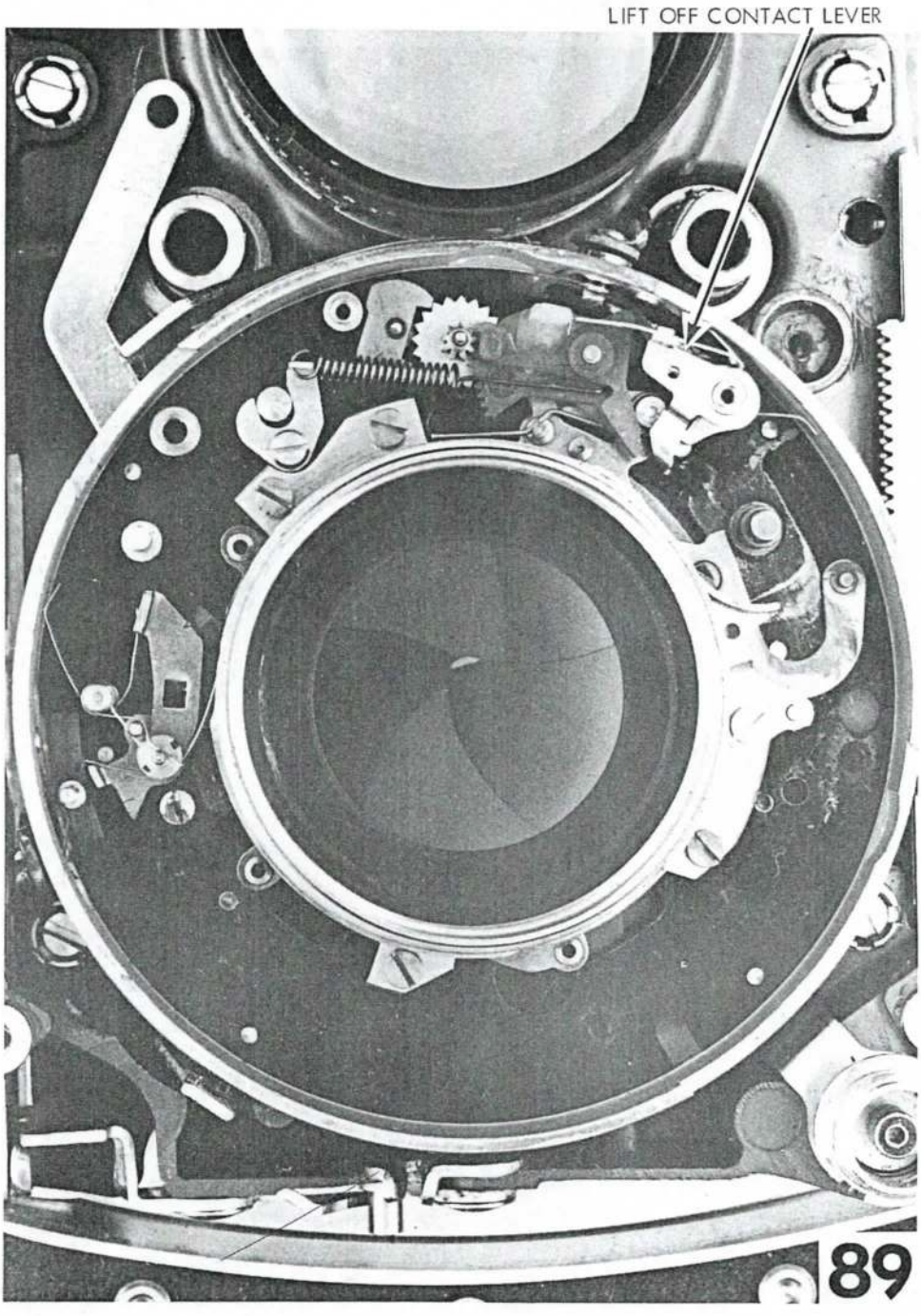
1. DISCONNECT INNER RELEASE LEVER SPRING

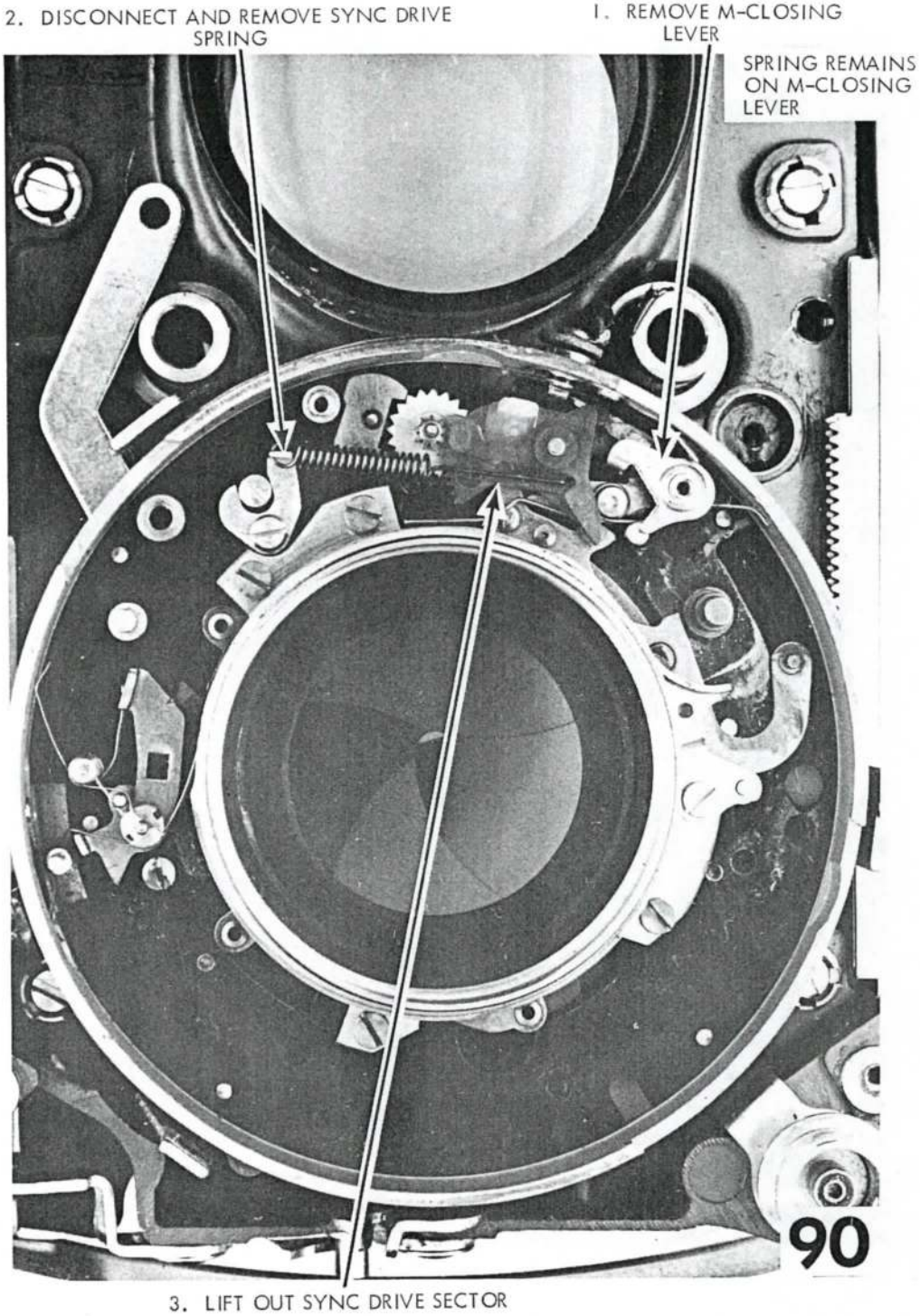
2. REMOVE SYNC BRIDGE SHOULDER SCREW-- REMOVE INNER RELEASE LEVER SPRING

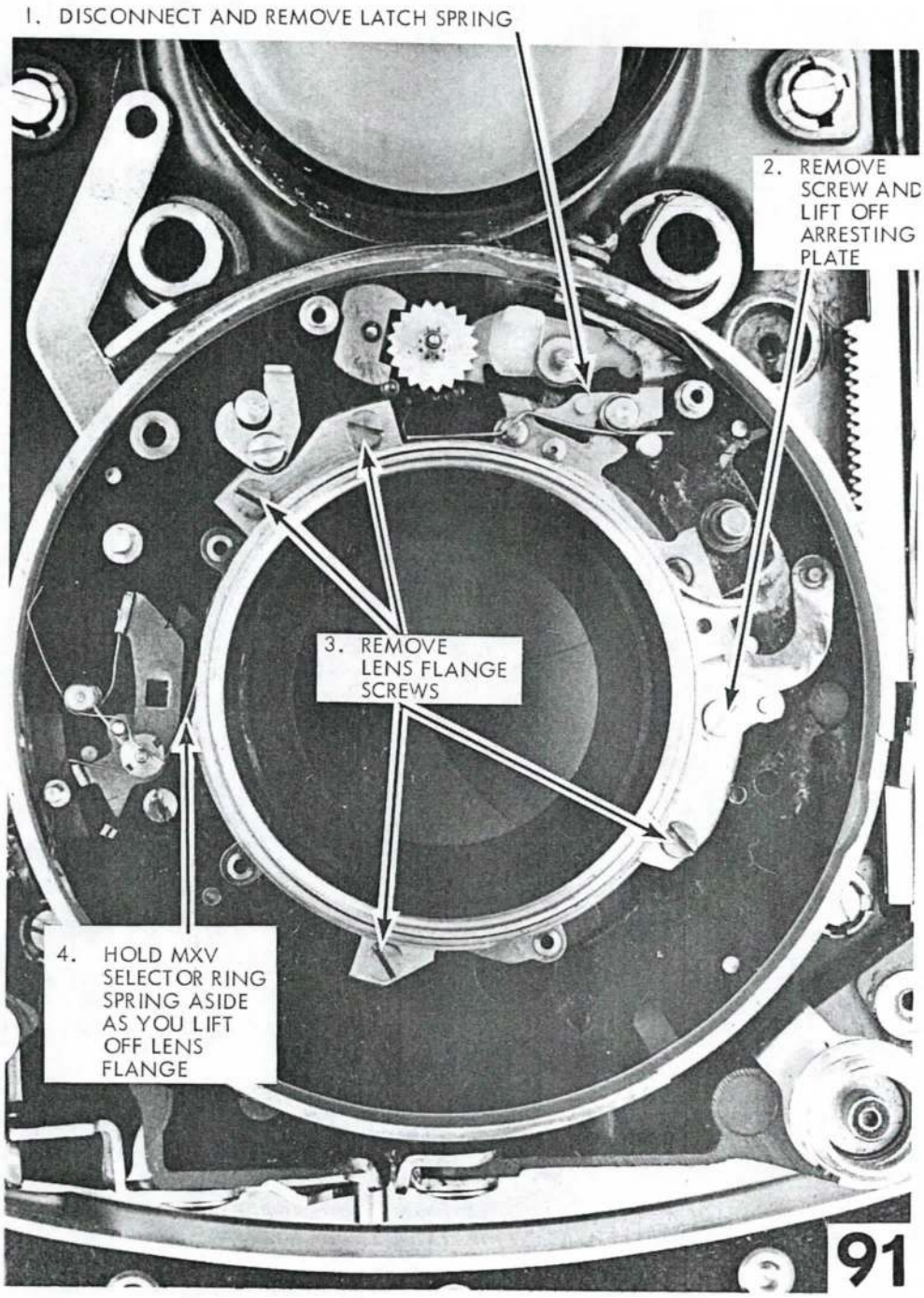
3. REMOVE SYNC BRIDGE SCREW AND LIFT OFF SYNC BRIDGE

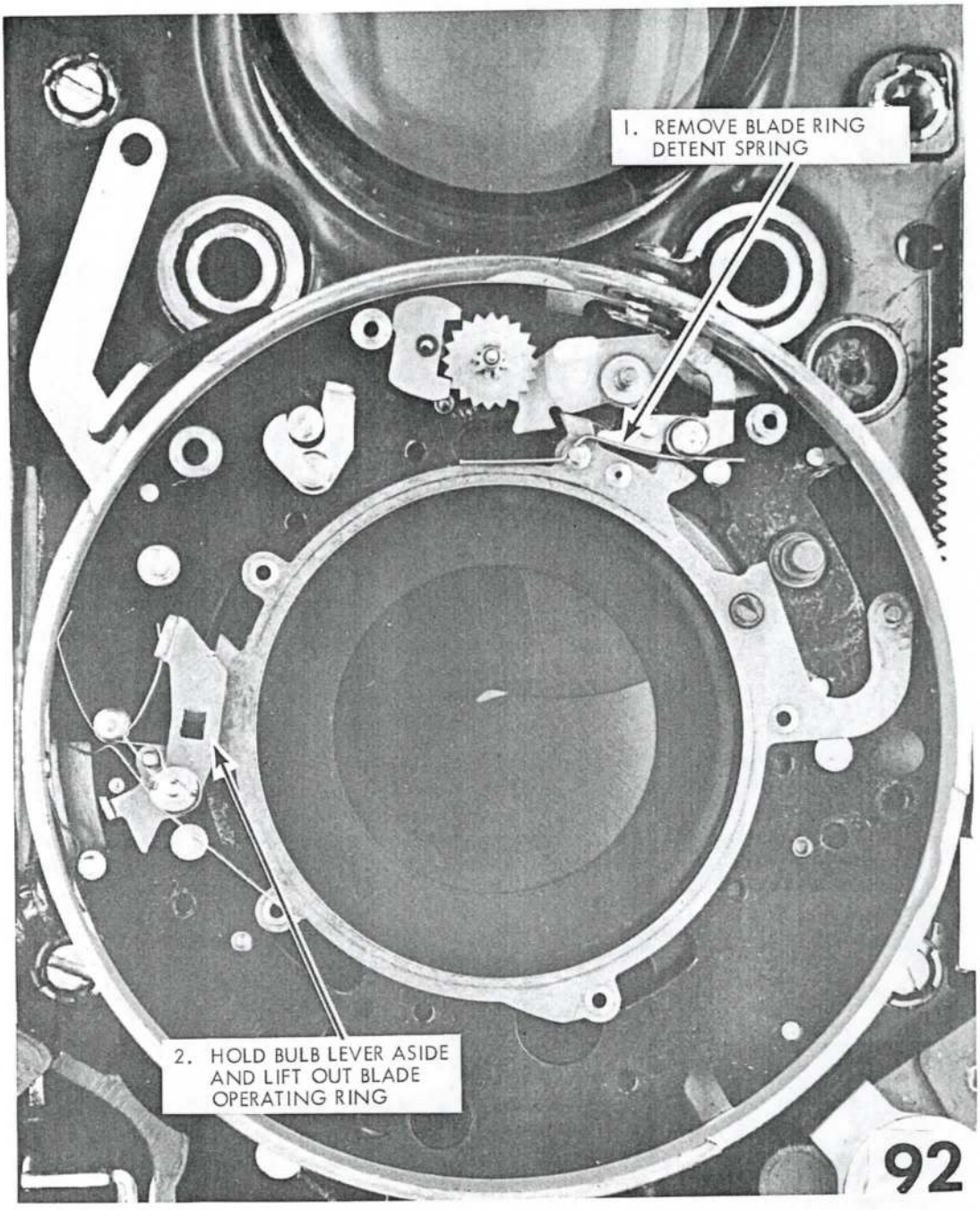


88

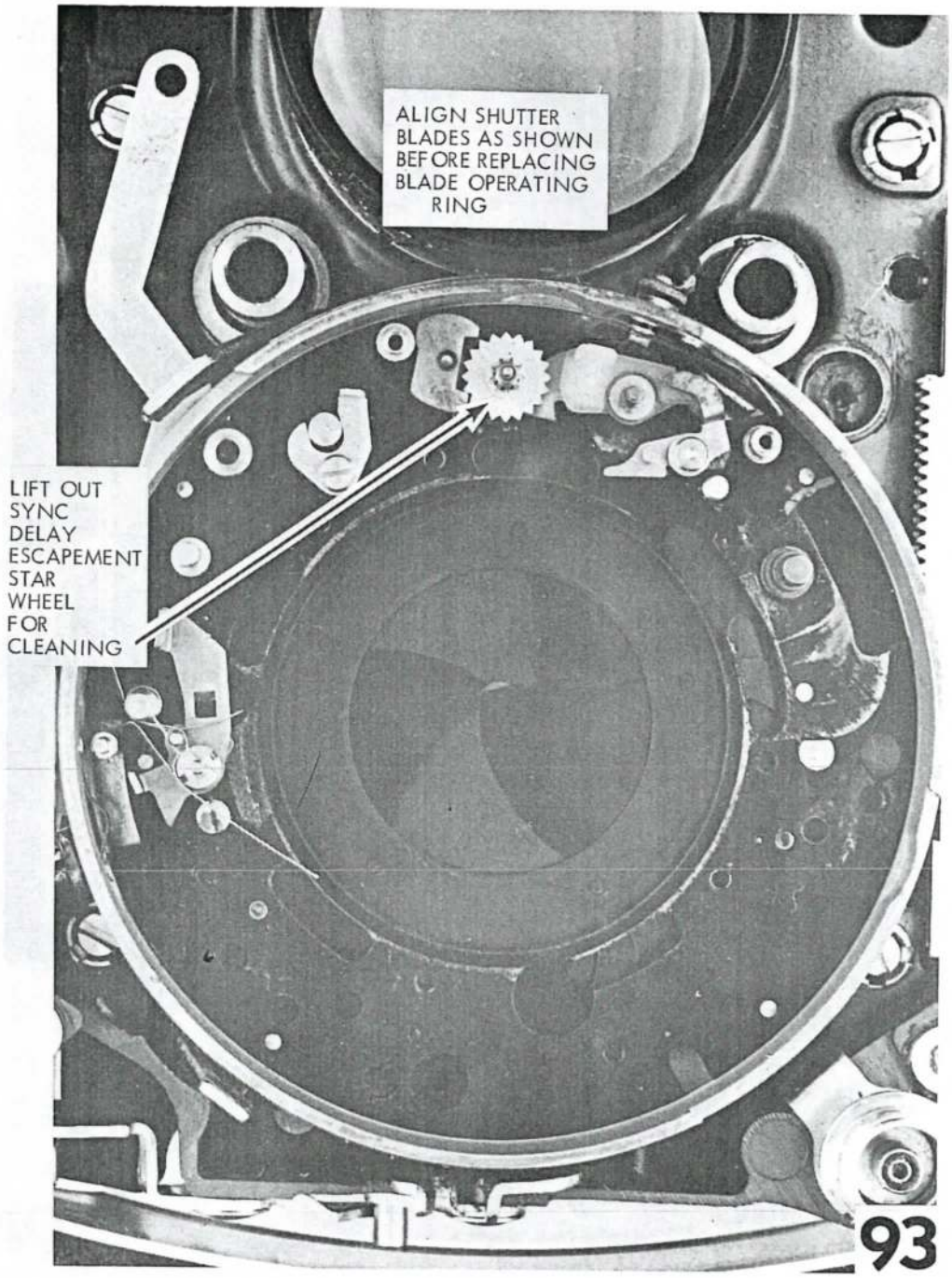

LIFT OFF CONTACT LEVER
89

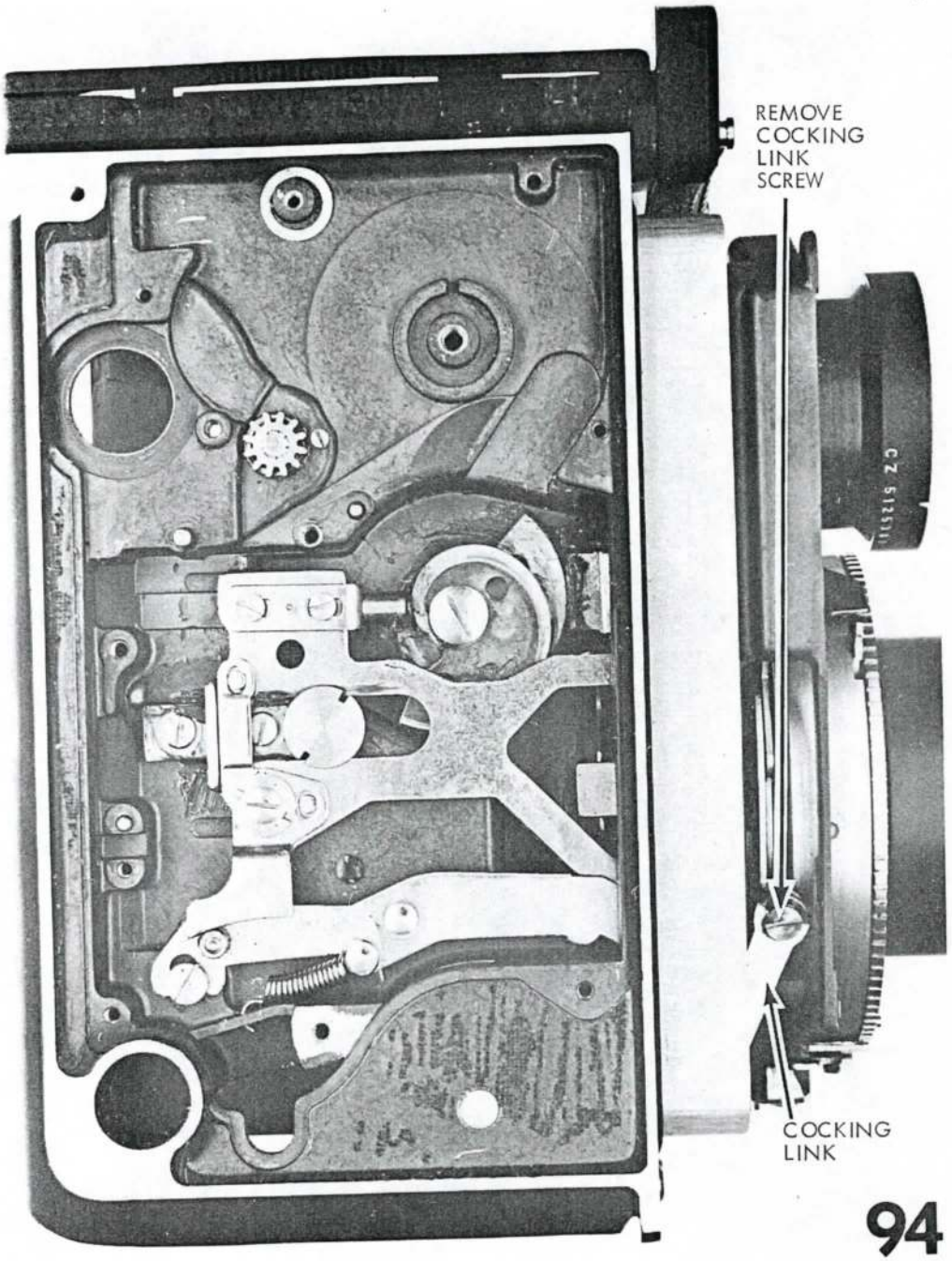

2. DISCONNECT AND REMOVE SYNC DRIVE SPRING
1. REMOVE M-CLOSING LEVER
SPRING REMAINS ON M-CLOSING LEVER
90
3. LIFT OUT SYNC DRIVE SECTOR

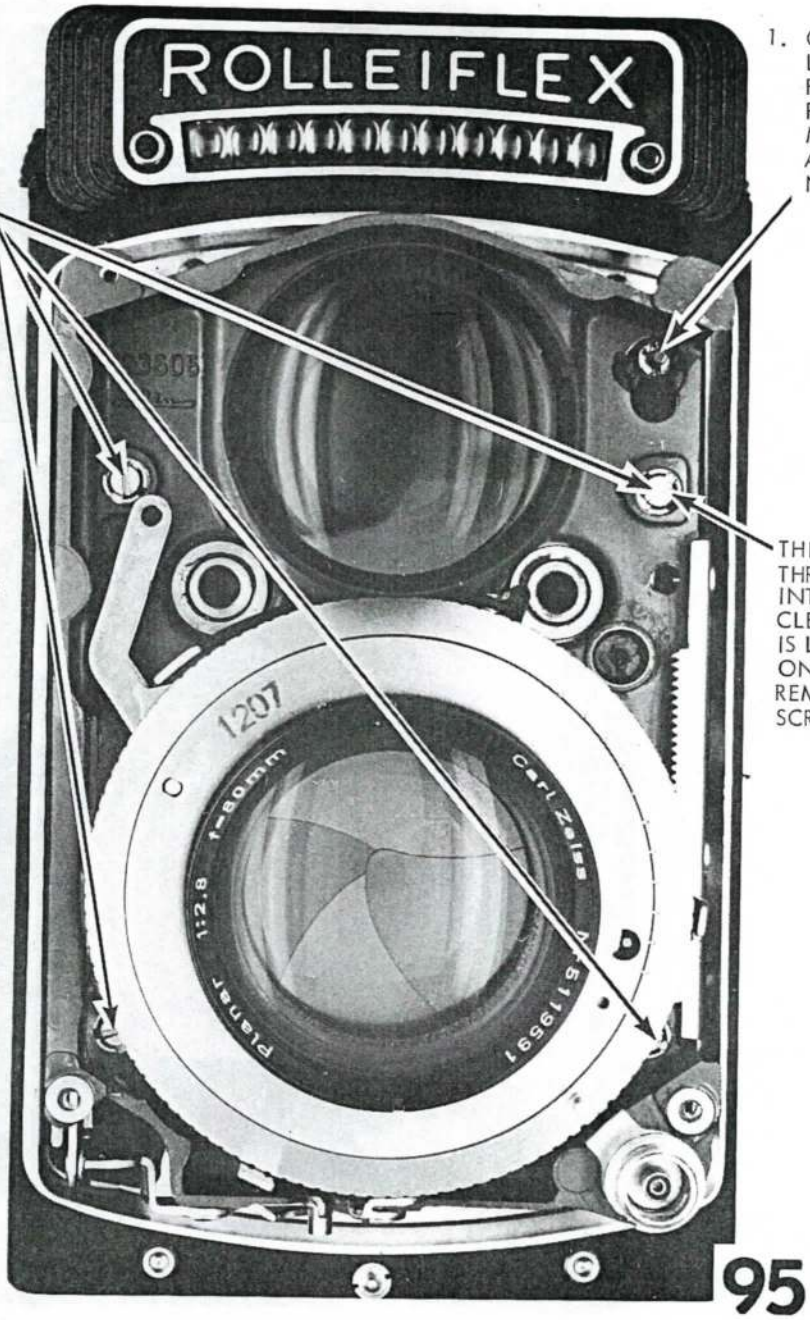

1. DISCONNECT AND REMOVE LATCH SPRING
2. REMOVE SCREW AND LIFT OFF ARRESTING PLATE
3. REMOVE LENS FLANGE SCREWS
4. HOLD MXV SELECTOR RING SPRING ASIDE AS YOU LIFT OFF LENS FLANGE
91


1. REMOVE BLADE RING DETENT SPRING
2. HOLD BULB LEVER ASIDE AND LIFT OUT BLADE OPERATING RING

92


ALIGN SHUTTER BLADES AS SHOWN BEFORE REPLACING BLADE OPERATING RING
LIFT OUT SYNC DELAY ESCAPEMENT STAR WHEEL FOR CLEANING


REMOVE
COCKING
LINK
SCREW
COCKING
LINK



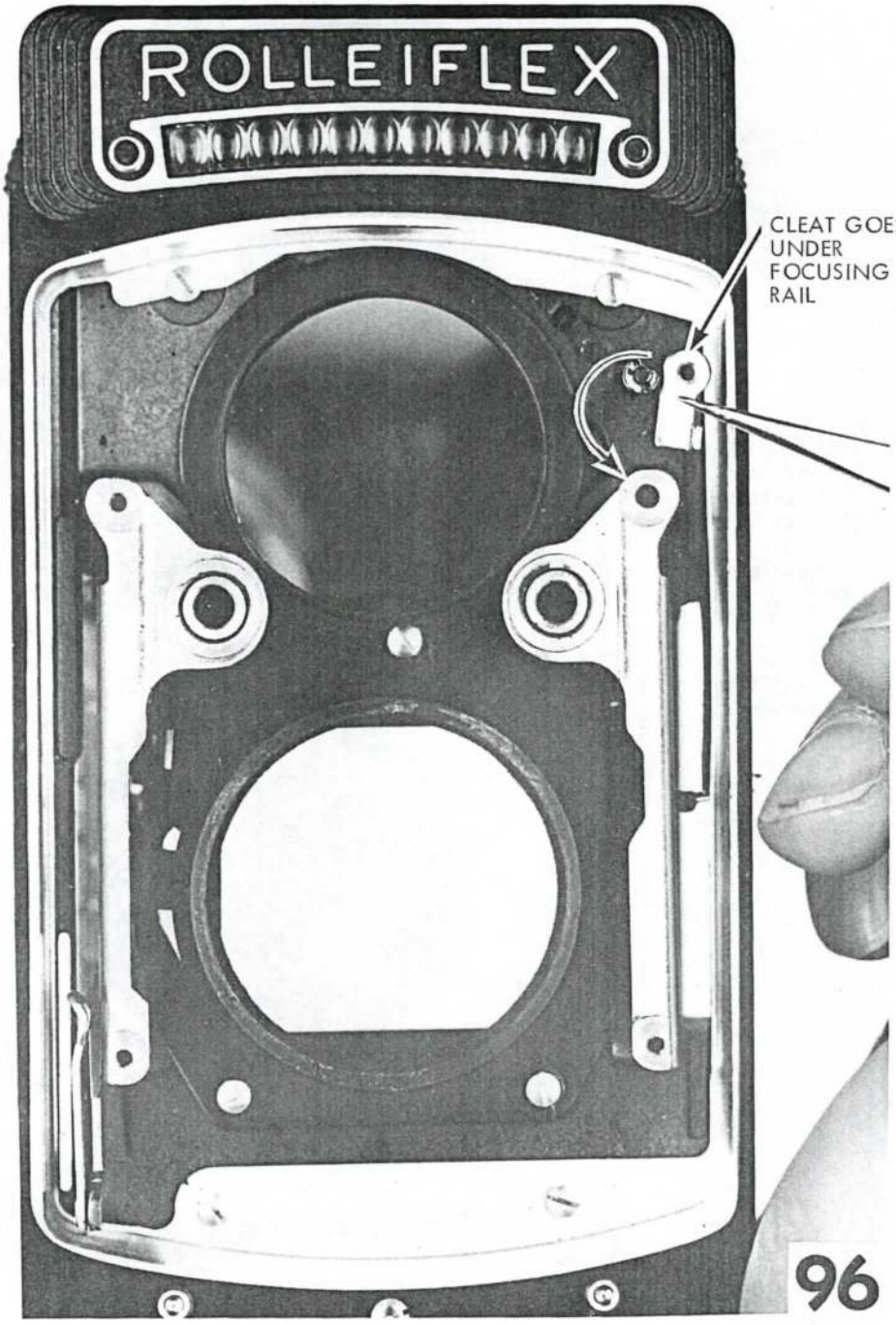
1. CLEAN LACQUER FROM PARALLAX MASK ADJUSTING NUT

2. REMOVE FOUR LENS STANDARD RETAINING SCREWS

3. AS YOU LIFT LENS STANDARD, TILT UPPER END FORWARD AND PULL DOWN END OF PARALLAX ROD -- UNTIL YOU CAN DISCONNECT PARALLAX ADJUSTING NUT FROM LENS STANDARD

THIS SCREW THREADS INTO CLEAT--CLEAT IS LOOSE ONCE YOU REMOVE SCREW

NOTE: With care, you can remove the lens standard retaining screws without disturbing the parallelism adjustment. One method is to lock the threaded bushings in place with lacquer before removing the screws. Alternately, you can hold the threaded bushings to prevent them from turning or simply mark their positions.



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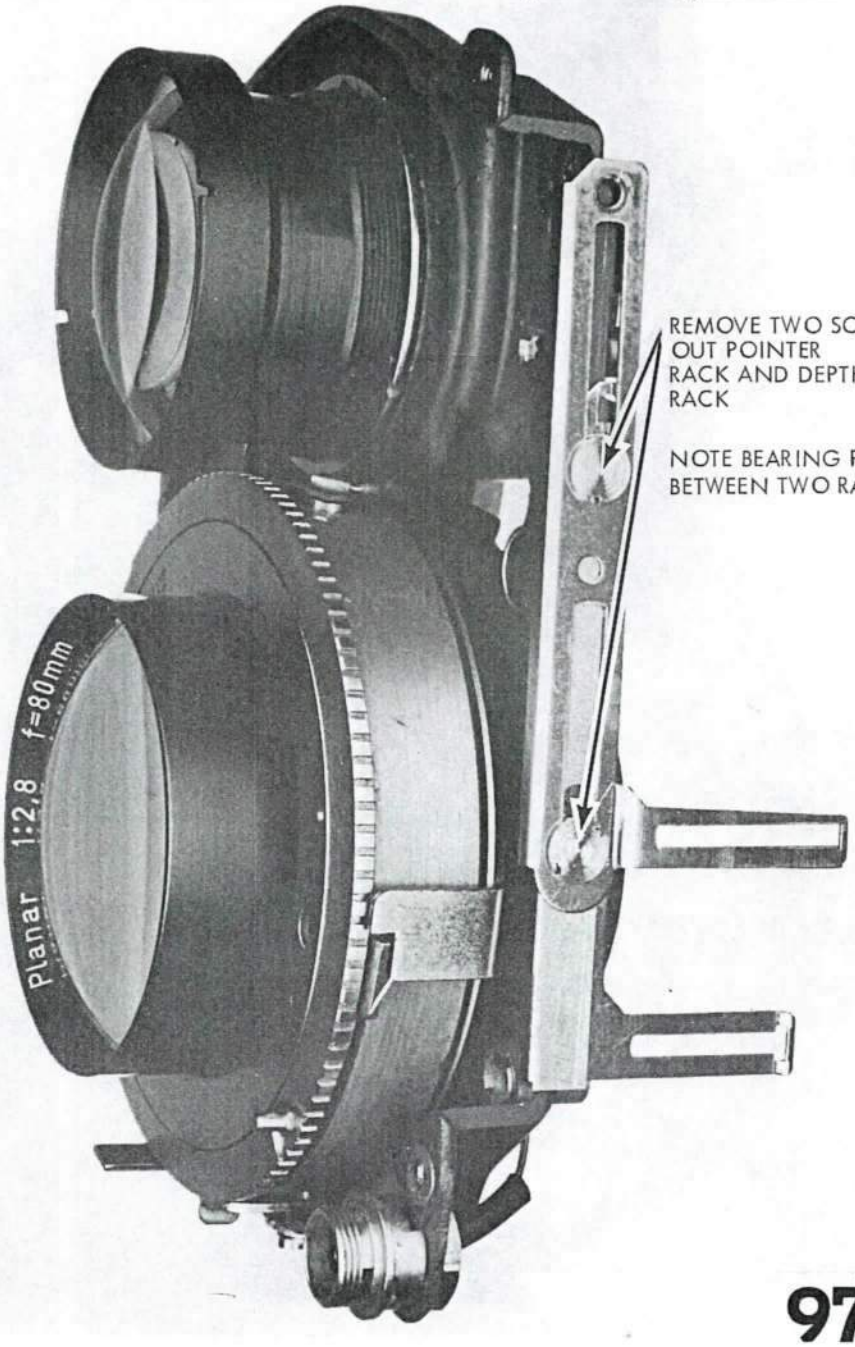
On reassembly, check the freedom of both the depth-of-field rack and the pointer rack. Both racks must be free enough to move by their own weight.



REMOVE TWO SCREWS--LIFT OUT POINTER RACK AND DEPTH-OF-FIELD RACK

NOTE BEARING PLATE BETWEEN TWO RACKS